

*"Health is the foundation of all our physical happiness." — HERDER.*

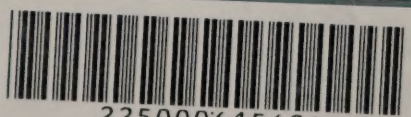
# HEALTH.

A WEEKLY JOURNAL OF  
DOMESTIC AND SANITARY SCIENCE.



EDITED BY DR. ANDREW WILSON. F.R.S.E. &c.





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VOLUME I.

APRIL TO SEPTEMBER, 1883.

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"Reason's whole pleasure—all the joys of sense—  
Lie in three words, HEALTH, PEACE, and COMPETENCE."—*Pope.*

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LONDON:  
WYMAN & SONS, 74-76, GREAT QUEEN STREET,  
LINCOLN'S-INN FIELDS, W.C.  
.1883.

The Parkes Museum  
PRESENTED BY  
THE I.H.E. 1884.



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# • HEALTH •

## A WEEKLY JOURNAL OF SANITARY SCIENCE.

No. 1.—VOL. 1.]

FRIDAY, APRIL 13, 1883.

[PRICE TWOPENCE.

### TO OUR READERS.

THE publication of a new Journal devoted solely to the diffusion of Health information, and of a knowledge of Sanitary Science in all its aspects, is happily a project which, in these days of awakening to the benefits of Health, needs little or no apology. It is not too much to say that the last ten years have witnessed a literally marvellous revolution in the attitude of the public towards Health-questions. Formerly little or no attention was paid to any details connected with the preservation of Health and the prevention of disease. Ignorance, prejudice, and false notions alike of the origin of disease and of the means and nature of cure, together formed a most potent barrier to progress in Sanitary Science. The price-less knowledge that the vast majority of diseases are of *preventible* nature, and that most of the maladies which afflict our race can be either avoided or greatly modified, is now beginning to affect modern civilisation. The people are slowly but surely awakening to a knowledge of the fact that man's health, fortunes, and misfortunes are largely of his own making. Knowledge of the laws of life, of the structure and functions of our bodies, and of the causes of disease, is the information which is now demanded by young and old, by rich and poor alike. It is on the basis, and with the intent of presenting such information in a plain, homely, and readily-understood fashion, that HEALTH, as a Journal of Sanitary Science, will take its stand.

The aims and objects of HEALTH must necessarily be very wide, but the variety of the topics which will be treated in our pages forms one of the most interesting features of our programme. HEALTH is intended to be a *thoroughly popular Journal*, which may be read by all classes with pleasure and profit. It will form a much-needed link between purely professional and medical journals and the public. In our columns the latest information regarding health-discoveries will be described in everyday language, with the complete avoidance of all technical terms. The chief aim of HEALTH will be that of instructing the people in those facts which form the foundations of human happiness, namely, the facts and laws of health and physical well-being.

To carry out the above objects, we propose to present our readers each week with a varied and entertaining selection of matter. The discussion of health-matters has always been too much associated with technicality and abstruseness. We shall strenuously endeavour to guard

our pages from dulness, believing firmly that all knowledge can be made entertaining, and that even the most scientific facts can be explained in language which a child may understand.

The programme of HEALTH will include, firstly, ORIGINAL PAPERS on health and kindred subjects. This department has been thoroughly organised, and will be found to embrace subjects of the highest interest. Arrangements have been made for the publication, in due course, of several most instructive series of papers on "The Human Body and its Structure," "The Home in its Health-Relations," "What to Do in Emergencies and Before the Doctor Comes," "The Treatment of Slight and Common Ailments," &c. Essays on many other subjects of interest will also appear weekly. THE FAMILY CIRCLE will form a statutory feature of HEALTH, and under this head information of the utmost value will be given on topics connected with the care and upbringing of the young, to whom also words of encouragement and advice will be occasionally given on various subjects connected with their games, sports, and pastimes. Under the head of PERSONAL HEALTH we shall also give a weekly digest of matters bearing on the well-being of the individual.

A special selection of Health-Notes under the title of JOTTINGS FROM THE JOURNALS will be made each week from the leading Medical Journals, whose influence is now so widely recognised by the public; and attention will also be given to SANITARY INVENTIONS AND IMPROVEMENTS. The interest taken in the sanitary regulation of house and home as a bulwark of the national health, forms a notable feature of modern thought; and we hope to encourage the attention which is now being paid to this department of health-science. The relations of RECREATION AND HEALTH will also be fully noted in our columns, and much useful information will be collated for the young, as well as for adults, on this topic.

Notices of New Books which may prove of interest in connection with Health, will be given in OUR BOOKSHELF. By way of encouraging discussion, and of affording information regarding Health-matters, we have instituted a CORRESPONDENCE DEPARTMENT, under the title of "OUR LETTER-BOX," in which Replies—both of a Medical and General nature—will be given to all Queries connected with the special province of this Journal and its aims.

Such being the programme we have decided to follow in the editorial conduct of HEALTH, it only remains for us to add that HEALTH will be a *thoroughly educative Journal*, seeking to instruct, whilst it endeavours to interest and



to entertain. Its pages will be free from all technical and purely professional details; and whilst in its treatment of health-topics it will not fear to express its opinions, it will avoid controversy, which too often interferes with and mars the efforts of education and instruction. How far and how successfully the foregoing aims may be carried out, must be left for the future to say. We anticipate a fair field for our labours. We enter upon our work hopefully and earnestly, believing that our name and our subject—HEALTH—stand second to none in public interest. To encourage thought on the arts and sciences that prolong life and promote human happiness, are probably the highest aims mankind can set before them. Our earnest desire is that of illustrating the poet's words, which we have taken as our motto :—

"Reason's whole pleasure, all the joys of sense,  
Lie in three words—HEALTH, peace, and competence."

And we shall endeavour by every means in our power to merit the support and confidence of all who value the knowledge that lies at the foundation of a healthy, and, because a healthy, a happy life.

## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE subject of hospitals is, of course, intimately related to that of health. Mr. Burdett, in last month's *Nineteenth Century*, shows very clearly that a full investigation into all the circumstances of hospital management, ways, means, and administration, is imperatively demanded. From "hospitals" which have no adequate or legitimate pretensions to the name, to the stately edifices that stand as monuments to the public charity of Great Britain, one and all require the searching eye of a Commission of Inquiry. What seems wanted is a central authority, or controlling board, which would be invested with full powers of management. There are, however, many difficulties in the way of such a proposition. Meantime, Mr. Burdett's article has not come too soon. We commend it to the notice of all who feel interested in our hospitals.

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PARIS has of late been in a bad way with typhoid fever. English visitors to Paris have, of course, remarked that there are some things in the shape of sanitary appliances which are not "managed better in France." Recent reports on the sanitary state of the French capital ought to make Frenchmen thoroughly ashamed of their backwardness in recognising the happiness of health. In 1882, out of a total mortality of 58,674 deaths in Paris, typhoid fever caused 3,276. In 1881, out of 56,820 deaths, this fever caused 2,120. These facts speak for themselves. But what can we expect with an utter absence of all sanitation, with a complete want of trapped drains, and with sewage gases floating in triumph through the houses of rich and poor alike?

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THE barbarities of pigeon-shooting have at last attracted the notice of legislators. Mr. Anderson's attempt was an honest and successful effort to show that the so-called "sport" was in reality an exhibition of gross cruelty. Squeezed bodies, mangled tails, gouged-out eyes—such are a few of the simple devices in vogue by way of making the birds fly to the taste of the "sportsmen." We trust this

brutal sport will be relegated once and for all to the limbo reserved for the barbarities of the past. Bull-baiting, cock-fighting, and pigeon-shooting will be classed together by future historians as examples of ignoble sports, which a wise and humane code of morals abolished from our list of fashionable amusements.

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THE electric light has been supplied to a Vienna hospital. This is as things should be. The problems of ventilation will be in greater part solved when the electric light comes into general use. We look for the adoption of the light in houses, but the "look-out" is one which, at present, is of "far-ahead" nature.

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WE are glad to see that a firm stand is being made in many quarters against the daily load of lessons which the child brings home from school. Parents cannot too soon begin to insist on all concerned recognising that "education" does not consist in a teacher merely hearing a child repeat what it has been "taught" at home. "Teaching" ought to be worthy its name; and children should not be saddled with tasks, one-fourth of which they cannot undertake, and nearly all of which might be really taught at school.

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IN Paris, M. Dubois recently showed the body of a dog which had been killed three weeks previously, and which was in a perfect state of preservation. A quantity of chloroform was introduced into the dog's stomach after its death, with the result just mentioned. It would seem that chloroform is thus a powerful antiseptic. The application of this discovery to the preservation of bodies in medico-legal and other cases is, of course, obvious.

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THE medical profession is at present discussing very warmly the possibility of phthisis, or "consumption," being communicable from an infected person to a healthy subject. It has been alleged that the minute particles given off in the breath of the consumptive patient, when inhaled, may, under certain circumstances produce the disease in the healthy. Medical opinion, however, is not satisfied that consumption is, in this way, "infectious." Further researches are needed before either a decided affirmative or a negative can be pronounced. At the same time, it would be well that healthy persons should not be allowed to share the rooms of or come into close contact with consumptive patients.

ATMOSPHERIC PURIFICATION.—We are now all well alive to the fact that a health resort must have, if it would retain its character, a pure atmosphere. The atmosphere must be free from poisonous emanation, free from dust and smoke. A proper system of sewage, such as we have already studied, seconded by rapid means for removing the ashes and dust from houses and the refuse of mews and stables, would be sufficient to keep the air clear of poisonous emanations under ordinary circumstances. But for clearance of smoke we must wait a little longer. Happily the day is dawning when that object is sure to be attained. So soon as the electric light wins its certain way, so soon will coal come to the fore and to the fire in the form of partly-purified gas, cheap, ready to burn at a moment's notice, and yielding heat, without either smoke to obscure the air or sulphurous acid vapour to injure vegetation.—Dr. Richardson, in *Longman's Magazine*.



## Original Essays

"Life is not to live, but to be well."—*Martial*.

### THE MEANING OF HEALTH.

THERE are, perhaps, few persons who, if asked to define "Health," could fully satisfy the questioner by giving a clear, succinct, and correct definition of the familiar word which has been chosen as the title of this Journal. "Health" means so much to some, and it is invested with such trifling importance in the eyes of others, that there must exist well-nigh endless ideas of what health is and what health means. But it is possible, nevertheless, to construct a plain and satisfactory definition of "Health." If we take science into our confidence as the best—and, indeed, the only safe—criterion of the correctness of our notions and views, we may find that it insists upon our recognising that health means something more than freedom from pain. It also implies the full, easy, and perfect discharge of all the duties of life. We should at first recognise fully that this life of ours, of which some of us make so much and others enjoy so little, is really a highly-complicated series of actions and duties. A physiologist, speaking scientifically, would say that life is carried out through the discharge of a large number of "functions"—physiology being the science which describes these "functions" or duties. Thus, in the digestion of food, there is performed a very large number of separate "functions." The division of food by the teeth; its mixture with the *saliva*, or "water" of the mouth; swallowing, or the conveyance of food to the stomach; the work of the stomach itself; the liver's duty in making *bile*, which is poured upon the food after it leaves the stomach—these are a very few of the "functions," or separate duties, performed in part of that bodily work we name "digestion." But these duties form only a small part of the round of life. We require to think of the heart's work, of that of the lungs, of the skin and its duty, of the work of brain and nerves, ere we can form any adequate idea of what is implied when we speak of "life" in a scientific and proper sense.

Now, in order to frame some true ideas of health and its nature, we must begin by regarding life in the fashion just indicated. Were life in itself a simple action, our definition of "Health" would be a task of easy nature. Life being a complicated set of actions or functions, it becomes proportionately difficult, as it is certainly of the highest importance, to construct a plain explanation of "Health." We may attain our end, however, very simply, by calling physiology to our aid. If life means work and action—as it assuredly does—then "Health," in the best and highest sense of that name, must mean the perfect working of our bodily processes and duties. Health, then, we define as "*the pleasurable—or, at least, the painless—discharge of all the duties or functions through the performance of which life is maintained.*"

Nothing less than the standard implied in these words will satisfy the health-reformer. Nothing less should satisfy individuals and nations alike, in their striving to learn the art of living wisely, happily, and well.

Definitions must bear the test of practical application, if they are to satisfy the truth-seeker. What is possible in mathematics, should be attainable in health-science. Let us see if our definition of what health is and means, will stand the test of examination and scrutiny. The case of a broken leg naturally places us face to face with a very plain infringement of a natural function—that of

movement. It is clear that as a fractured leg-bone interferes with the due, easy, and painless discharge of the functions of the limb, our idea of health certainly comprehends this case. An aching tooth disturbs our rest, is the cause of severe pain, and refuses to discharge its duty in the way of perfectly dividing our food. The pleasurable discharge of the functions of the teeth is interrupted and interfered with. Thus, again, we see that the person who is a martyr to the affliction which even philosophers are believed to grumble at and to wince under—namely, toothache—is also provided for under our definition. In other words, he cannot discharge all the functions of life pleasantly or painlessly.

Again, let us take the case of a bilious headache. Little to be wondered at is that tendency which classical authorities long ago exhibited, of attributing melancholy to the "black bile," with which the mind was believed to be charged. The bilious subject literally sees life through spectacles of the most lugubrious tint, and simple as may be the cause of his sufferings, for the time being they are paramount in causing overthrow of his enjoyment. Now, the duties of the liver in manufacturing bile are performed, in health, without causing us either pleasure or pain. That is to say, we are practically unconscious in health of the liver's work, just as in health we do not experience any sensations which tell us that the spleen is engaged in the endless work of making blood-globules. But the definition of health we have constructed still includes the case of the bilious person. "Health" is the pleasurable—or, at least, the "painless"—discharge of all the bodily functions. Therefore, if a duty which, like that of the liver, is normally and naturally of a "painless" and unfelt description becomes disordered, it is no less a derangement of "health" than when a tooth aches or a leg is broken.

Last of all, let us briefly consider the case of a fever. Here the bodily functions are much disturbed. A special poison—regarding the nature of which due information will appear in the pages of HEALTH—is received into the body. Passing into the blood, the germs of the fever, obtained from a previously-existing case of fever, multiply, grow, and increase. It is this wondrous growth of these germs which, directed sometimes to one region or organ of the body, sometimes to another tissue or part, produces all the characteristic signs and symptoms of the fever, and enables us through these signs to distinguish one fever from another. Now, it is the digestive organs that are affected—then, it is the brain; in one case the throat is attacked—in another case, the "glands" are infected. But the fever disturbs the functions of the body more or less completely; it renders ordinary life for the time being impossible; it infringes all the conditions of healthy living; and, therefore, it must come within the scope of our definition of "Health."

We have said enough to show what health is, and how diseases and injuries violate the great rule and standard by which health should be judged. What we have to strive after, and what HEALTH, as a journal of Sanitary Science, aims at, is the acquirement of the knowledge which shall enable us to ward off the causes—manifold as they are—which prevent life's functions, great or insignificant, from being pleasantly or painlessly performed.

### THE "SCARCITY" OF HEALTH.

MR. HERBERT SPENCER, in that admirable and trenchant work, which in one sense may be described as a satire on our existing system of "education," has the following weighty passage:—"If any one doubts the importance of



an acquaintance with the principles of physiology as a means to complete living, let him look around and see how many men and women he can find in middle or later life who are thoroughly well. Only occasionally do we meet with an example of vigorous health continued to old age; hourly do we meet with examples of acute disorder, chronic ailment, general debility, premature decrepitude. Scarcely is there one to whom you put the question who has not, in the course of his life, brought upon himself illnesses which a little information would have saved him from. Here is a case of heart-disease consequent on a rheumatic fever that followed reckless exposure. There is a case of eyes spoiled for life by over-study. Yesterday the account was of one whose long-enduring lameness was brought on by continuing, spite of the pain, to use a knee after it had been slightly injured. And to-day we are told of another who had to lie by for years, because he did not know that the palpitation he suffered under resulted from overtaxed brain. Now we hear of an irremediable injury which followed some silly feat of strength; and, again, of a constitution that has never recovered from the effects of excessive work needlessly undertaken. While on every side we see the perpetual minor ailments which accompany feebleness. Not to dwell on the pain, the weariness, the gloom, the waste of time and money thus entailed, only consider how greatly ill-health hinders the discharge of all duties—makes business often impossible, and always more difficult; produces an irritability fatal to the right management of children; puts the functions of citizenship out of the question; and makes amusement a bore. Is it not clear that the physical sins—partly our forefathers' and partly our own—which produce this ill-health, deduct more from complete living than anything else? and to a great extent make life a failure and a burden, instead of a benefaction and a pleasure?"

These are weighty words, we repeat, but they derive all their power from the fact that they are terribly true. When we come to think of it, there are very few persons who are really and thoroughly well, to whom life is a pleasure and existence a "benefaction." What is also to the point is the fact that, as Mr. Spencer so clearly shows, a very large proportion of our ailments are *preventible*—truly and really preventible and avoidable. Leaving out of sight for the present those cases in which the influences of parents—or *heredity*, as it is styled by scientific men—may start us on life's journey with constitutions more or less feeble, there remains the interesting and important fact, that most of us *acquire* our ailments, and that, through our own ignorance or heedlessness of the laws of life and health. The waiting-rooms of our dispensaries and hospitals, the hourly experience of physicians, and common observation, alike demonstrate that health is, after all, the scarcest commodity the world knows. Slowly, but surely, mankind has been awakening to a knowledge of the great and saving truth that it is possible to lessen illness, to prevent disease, and to prolong life. All this is to be accomplished, not, let us note, by the discovery of some panacea for the ills to which flesh is heir; but by plain, and even elementary, knowledge of health laws, such as every child should acquire at school, such as every man and woman should know and practise.

Naturally, the ways and means in which health is lost or disordered bear the closest relationship to its scarcity. Attention will be very fully directed in future numbers of *HEALTH* to the causes through which ailments are induced. Practical information will be given showing thus how certain trades and occupations are subject to certain diseases, and how, by scientific means, these diseases may

be lessened or prevented. The abuse of foods and drinks forms another fertile cause of disease; impure water, foul air, and want of ventilation, overcrowding, uncleanness of body and surroundings, insanitary houses and bad drains—these are amongst the most fertile causes of common, widespread, and fatal diseases. All of these causes of disease are removable and remediable; and experience—"Nature's sternest teacher, yet the best"—shows us that, as we attend to and improve the surroundings of our life, we certainly diminish mortality and render life happy. We are stating simply the gravest and plainest of truths when we say that, if the intelligence of this and other countries bestowed a tithe of the attention given, say, to politics, on "Health," we should speedily find such an improvement in our sanitary surroundings and in the amount of happiness enjoyed by the race as would seem Utopian in the eyes of even health-reformers themselves. We began this article with a quotation from Mr. Spencer. We may end it with a few remarks from the same high authority. Speaking of the necessity for keeping well, and of the effects of disease, Mr. Spencer says:—"It is not true, as we commonly suppose, that, after a disorder or disease from which we have recovered, we are as before. No disturbance of the normal course of the functions can pass away and leave things exactly as they were. A permanent damage is done, not immediately appreciable, it may be, but still there; and, along with other such items which Nature, in her strict account-keeping, never drops, it will tell against us to the inevitable shortening of our days. Through the accumulation of small injuries it is that constitutions are commonly undermined and break down, long before their time. And if we call to mind how far the average duration of life falls below the possible duration, we see how immense is the loss. When to the numerous partial deductions which bad health entails we add this great final deduction, it results that *ordinarily one-half of life is thrown away.*"

These are words to ponder over, and to grow wise over as we read them. They carry their moral writ large enough, so that he who runs may read. And of health-facts it may be said most truly, in the words of old, "Happy ye who know these things, but happier far ye who do them."

THE BRAIN AND ITS NOURISHMENT.—From its constant activity, the brain demands a large amount of blood to nourish and restore its elements. In point of fact, nearly 6 per cent. of the total blood is at work in the brain; and if we consider that about 64 per cent. of the blood is circulating in the heart and large vessels, and only some 36 per cent. in the tissues of the body, we gain an idea of how richly the brain is supplied. Time will not permit of me going into the interesting subject of the arrangement of the brain blood-vessels. Suffice it to say that it is devised with the objects, first, of insuring not only a very copious supply, but also a very uniform and equal flow of the nutrient fluid, and, secondly, of protecting it, as far as possible, from influences from without. The results of the stoppage of a cerebral vessel are most disastrous—the functions of the part supplied are at once arrested, and unless the obstruction is removed, the tissues become permanently disorganised. The convolutions are nourished by vessels which enter from their outer surface, certain of which pass on to the white matter. But the blood-supply is five times greater to the grey than to the white matter, an additional evidence, if such were necessary, that the former exercises much more functional activity than the latter.—DR. TUKE.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### I.—THE CARE OF THE TEETH.

By DR. ANDREW WILSON, F.R.S.E., ETC.

In his "Amatory Odes," Old Herrick is found to say:—

"Some asked how pearls did grow, and where?  
Then spake I to my girl  
To part her lips, and show me there  
The quarrelets of pearl."

There can be little doubt that the admiration of Herrick for a good show of teeth is more than justifiable; and it is as easy to prove the opposite contention—namely, that teeth which, through ignorance or carelessness, have been allowed to become discoloured and decayed, disfigure even a handsome face, and mar the beauty of a smiling countenance. The possession of a sound set of teeth may be described as one of the best of our personal belongings, and as one which conduces in a very solid fashion to the preservation of health. Yet it is lamentable, at the same time, to discover how little care is bestowed upon these important organs. Young and old alike neglect them. The young are not taught, as they should be, to value their teeth as necessary agents in the work of digestion. The old grow careless as years roll on, and the teeth are left to take care of themselves, with the sure result of too early decay, the pangs of tooth-ache, aching gums, and disordered digestion.

It is easy to prove that bad teeth are a fertile cause of indigestion. To decayed and ineffective teeth may be ascribed the beginnings of very many of the most serious cases of indigestion which meet the eye of the physician. The connection between bad teeth and disordered digestion is easy to trace. Teeth which give us pain when we use them, predispose us to "bolt" our food. Two consequences result from this far too common practice. Firstly, we note that the stomach is loaded with food in an undivided state, and its work is thereby seriously augmented and unwarrantably increased. The food should be swallowed only after being well divided; and a plain method of reasoning would convince us that, as a perfect set of organs for dividing the food exists (or should exist) in the mouth, nature evidently intends that they should be used, and used efficiently. Then, secondly, if we swallow our food without masticating it thoroughly, the starchy parts of the food are not duly changed into a chemical sugar (called "grape-sugar"), as nature intends they should be. The *saliva*, or "water" of the mouth, exerts such a chemical action on the food; and when the food is "bolted," it is evident that such starches as it contains must pass to the stomach in an unchanged condition, thus qualifying us for indigestion. For starch, it may be added, is a substance not digested in the stomach.

Clearly, then, good teeth are a plain necessity for health. Teeth consist of three substances—ivory (or "dentine"), enamel, and "cement." The enamel is the hardest substance in the body, and coats the crown of the tooth especially, as the wear and tear are greatest in that region. Yet this enamel is one of the first substances which goes to decay under the influence of the acids generated in the mouth when the teeth are neglected. Particles of food which remain in the mouth and lodge in the teeth undergo a process of fermentation, in the course of which acids that attack the teeth are produced. Decay of the teeth thus begins and continues, and deposits of "tartar" accumulate on the teeth. In time, the soft, delicate pulp

found in the inside of the teeth becomes exposed. Its nerves, being irritated by the secretions of the mouth, give rise to the pains and pangs of toothache, which, as often as not, is simply the penalty we pay for neglect of the teeth.

The chief rules which must be attended to and observed in connection with the care of the teeth are as follows:— Firstly, if possible, the mouth should be rinsed out after every meal. Secondly, the teeth should be brushed, night and morning, with a *tooth-powder*—mere tooth-"washes" are ineffective in keeping the teeth clean and pure. A good powder is the "Precipitated Chalk" of druggists, well made and having a little camphor added. This preparation is sold under the name of "Camphorated Chalk," and the camphor has a stimulating and healthy influence on the gums. Thirdly, use a medium tooth-brush, neither too hard nor too soft, and use water with the chill taken off, wherewith to brush the teeth.

By attention to these simple rules, not merely will a notable item in personal appearance be preserved, but health will be secured and pain avoided. Many a bad attack of toothache disappears when the teeth are duly attended to, and when some light aperient medicine has also been administered. If the gums are naturally irritable and tender, a few drops of tincture of myrrh in water should be used to rinse out the mouth, twice or thrice daily. If the teeth are naturally bad, and subject, through constitutional causes—inherited from parents—to decay, the dentist should at once be consulted. It is a moral duty to preserve health, and the best artificial substitutes should be employed when our natural teeth fail us. Lastly, smokers should pay strict and especial attention to the care of the teeth. All that has just been said concerning the teeth may be repeated, with increased effect, to those who indulge in pipe or cigar.

**CLOTHING AND HEALTH.**—One of the first principles in dress is that the clothing should so cover the body as to maintain it in all parts as far as possible at an equable temperature. How is this principle observed in the attire of a child of five or six years old? The arms are commonly bare from the shoulders, and the child can exhibit upon those limbs the familiar effects of external cold upon the circulation of the surface. The lower limbs also are covered by a short and scanty skirt, and by meagre petticoats separated from the extremities they are supposed to warm by an encircling ring of cold air. From the united effects of unsuitable material and inconsiderate application, it comes to pass that the little girl of modern days wears more clothes than she needs, and is saddled with a burden that, while it impairs the free use of the limbs, involves at the same time a fair amount of needless muscular effort. Linen, it is unnecessary to say, is, from its active properties as a good heat conductor, a very unsuitable substance to be worn next to the skin, especially in a climate subject to abrupt changes of temperature. In the clothing of young girls, then, some woollen fabric should be worn next to the skin, and should clothe the entire body as evenly as possible. The dress should be suitably long, and should be so made as to be suspended from the shoulders, and not from the waist. The petticoat also should be attached to an under-bodice, which, like the dress, should receive its attachment from the shoulders. The stockings should be suspended from this bodice, and socks should be entirely discarded, as affording but a partial covering to the limbs. The neck, again, should never be left wholly uncovered. The ornamentation of the dress should be as scanty as possible, and should aim at making the least possible addition to the weight of the attire.—*Lancet*.



## The Body and its Structure

"The proper study of mankind is man."—Pope.

"What a piece of work is a man!"—Shakespeare.

UNDER this title we propose to present to the readers of *HEALTH* a series of articles on the structure and functions of the human frame. The importance of a knowledge of our bodily mechanism cannot be overrated, since such information leads to the better appreciation of the nature of disease and of the means of cure. So long as the bodily structure remains unknown, so long is disease a mystery, and health a mere term for an unknown and unattainable condition. With even an elementary knowledge of the structure of our frames, we may understand, in greater part, the chief contentions which the health-reformer lays before us as the foundations of physical happiness and enjoyment of life. In this spirit, and with these aims, we commend this series of articles to the attention of our readers.

### I.—THE CHEMISTRY OF OUR BODIES.

By A. J. MANSON.

The body of a living man is, undoubtedly, a very complicated machine. Whether we regard it in its work of movement, where the limbs form levers moved by the flesh or muscles; or whether we think of the numerous chemical actions proceeding within the body, we must own that life and its mechanism together present us with a highly-intricate series of studies. Yet it is possible to gain certain very plain and correct ideas of our anatomy and functions in the course of a simple study of the facts which science has brought to light. *Anatomy*, as most readers know, is the science which deals with the *structure* of living beings, animals, or plants. A watchmaker who can describe the manner in which the various parts of a watch are related to each other, might be said to know the *anatomy* of the time-piece. *Physiology*, on the other hand, is the science of *functions* or *duties*. If the watchmaker explained to us how the various parts of the watch worked and performed the duties assigned to them, he would be describing the "physiology" of the watch. In the same way, when we ascertain how our bodies are constructed, how they are built up of organs and parts, we study their "anatomy." When, on the contrary, we investigate how these organs and parts act and work, we enter upon a study of "physiology." An arm, with its bones, joints, muscles, nerves, and blood-vessels, is a complex piece of our bodily structure. Anatomy teaches us the details of this structure, and how the parts of an arm are related to one another. But when we begin to inquire how an arm works, how muscles move the bones, how nerves supply us with feeling, and how blood-vessels carry nourishment to the tissues, we then study physiology. In a word, we can only know what an organ *does*, when we know what that organ or part *is*. Physiology, the science of the *functions* of living beings, is founded upon a knowledge of anatomy, which deals with their structure and build.

Chemistry—the science which investigates the composition of matter—steps in at the outset of our studies, to teach us the nature of the various kinds of matter of which our bodies are composed. The world around us is made up of some sixty-four bodies, which the chemist calls *elements*, because he is, at present, unable to split them up into two or more different bodies. Such bodies as iron, gold, zinc, copper, oxygen, hydrogen, &c., existing as solids or as gases, represent elements. When two or more

elements unite together, they form a *compound*, and chemists have discovered that the elements which thus combine, do so in certain proportions which do not alter. *Water*, for instance, is a compound. It consists of two gases—oxygen and hydrogen. We can decompose water into these gases, or we can form water by bringing these gases together in certain proportions. So, also, iron, which is an element, unites with oxygen, and forms a compound we call an *oxide of iron*, or, popularly, "iron-rust."

Of the sixty-four elements, about seventeen have been found in our bodies, forming thus the chemical basis of the human frame. The elements which occur in largest quantities are oxygen, carbon, hydrogen, and nitrogen. The two former make up about 85 per cent. of the chemistry of our bodies. Lime, sodium, and potassium stand next in order; and amongst other elements which are present in greater or less quantity, may be mentioned sulphur, phosphorus, iron, silicon, magnesium, chlorine, and fluorine. Traces of copper, lead, and aluminium have also been detected in the tissues.

We must note that these *elements*, however, do not exist in our bodies as such. They form *compounds*, often of very complex nature. The substances of which our bodies consist may be divided into two classes:—1, *Organic Compounds*, or those into the composition of which the element carbon enters; and 2, *Inorganic Compounds*, from which carbon is usually absent. It is important to note that a human body is thus in reality built up of the same elements which form the dead world around us. There is no *element* in man's body which is not found in the world itself; whilst the spectroscope has shown us that many of these elements are also found in the sun and planets. That which is peculiar to living beings is the manner in which this common matter of the universe is combined to form certain "compounds" of the living body. Some of the *compounds* of the body are themselves found in nature. Thus, *water* forms two-thirds by weight of the whole body. Common salt ("chloride of sodium," as it is chemically called) is found in the blood. *Iron* gives the colour to the blood. *Carbonate of Lime*, or "Chalk," is found in the bones and teeth. *Phosphate of Lime* makes up the chief part of the bones. *Phosphorus* seems necessary, in one form or another, for brain and nerves. Of the *Organic Compounds*, or those which are peculiar to animals and plants, the best known is *protoplasm*. This is a substance composed of carbon, hydrogen, oxygen, and nitrogen, with traces of sulphur and phosphorus. It has well been named the "physical basis of life," for in one form or another it is found wherever life exists. It is the one substance which exhibits "life," and it resembles in appearance, and in chemical composition, *albumen*, familiarly seen in white of egg. Albumen is, in fact, the type of those substances in our bodies which are peculiar to us as living beings.

To sum up our chemical history, then, we may say that our bodies are built up of the same *elements* of which the world and planets are composed. Further, these elements are combined to form *compounds*, some of which are peculiar to living beings, whilst others are found in the world around us. And lastly, we see that a living body, animal, or plant is composed of matter which is simply withdrawn for a time from the world around, and which at death is restored to the world of non-living matter. Life seems simply to obtain matter on loan, as it were, and weaves this material into the forms of animals and plants. We shall be able to see in future how the knowledge of the chemistry of our bodies assists us in understanding clearly what we require to find in our food.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

#### NO. I.—WHEN FEVER INVADES THE HOUSE.

THE invasion of the household by fever, or infectious disease of any kind, naturally constitutes a serious disturbance of the family circle. What fevers are, how fevers come, and how they are generated, will be treated in future numbers of *HEALTH*. We are now to suppose that infectious disease has invaded our dwelling, and to inquire into the plain and simple rules which all ought to know and to follow out in such a case. It should be borne in mind that every case of infectious disease—from simple measles or whooping-cough, to typhus fever, small-pox, or diphtheria—places the dwellers in the infected house under a threefold relationship. There is, firstly, their relations to the *patient*. The latter has to be well and carefully treated, and to be placed in the conditions under which recovery is to be soonest and best attained. Then there are, secondly, the *personal relations* of the inmates of the infected house. They have to consider their own health, and how best to keep well and to avoid infection. Thirdly, and lastly, though by no means least, the inmates have to consider their relations to the public and to their neighbours. The question, "Who is my neighbour?" asked in a case of fever, may be answered by saying that every person with whom any inmate of an infected house comes in contact, is a neighbour. The golden rule of "Doing as we would be done by" appeals to us here with tenfold force. If we are to discharge the duty to our neighbour as we would desire that our neighbour, when his house is infected, should discharge his duty to us, we must take care that he does not suffer in health from any carelessness on our part in the treatment of our infected friend and patient.

To show how grossly careless the public are in this neighbourly relationship, we may quote from a medical journal, the following letter, signed "Observer," and headed "How Scarlet Fever is Spread":—

"In a letter received yesterday from a friend in the environs of Liverpool, it is stated: 'Scarlet fever is spreading rapidly here, and no wonder. I saw two gentlemen, in each of whose houses there is scarlet fever, enter a crowded omnibus to go into town yesterday. A gentleman and his wife, who have scarlet fever in their house, come to church; and I saw a sale of furniture in a house where I know two cases of recovery from scarlet fever had been.'"

Comment upon such a case is needless; but here is a worse case still, taken from the daily newspapers of December, 1881, and headed "How Contagious Diseases are Spread":—

"On Saturday evening the medical officer for Hull and the sanitary inspector received information of the outbreak of small-pox in a family residing in Midland-street. They at once went down to the house, which was occupied by a man and woman and three children. They found that the father and mother had taken the youngest child and gone with it to a meeting being held that night at Hengler's Circus by the Salvation Army. They therefore followed them to this place, which was crowded to excess, and with great determination forced their way into the assembly, where they at length found the party they were in search of, and induced them to leave. Seeing the condition they were in, the sanitary officers took them down to the fever hospital, and, having deposited them there, returned for the two children who had been left in the house, placing them in the hospital also. Within about three hours after admission, the child which had been taken by the parents to the circus died, and both the father and mother are suffering from small-pox."

It is clear that such cases, involving frightful risks to the public, are but the natural outcome of ignorance of the nature of disease. Hence in our daily newspapers we may find a sufficient warning that the people require to be instructed in health, and that it is only through a knowledge of health-laws that disease may be lessened, and misery and sufferings saved and prevented.

The basis of all sensible treatment of a fever-patient is found in one word—"isolation" or "separation." As a ship is placed in "quarantine" when disease breaks out on board, so a household is to be cut off as far as possible from all communication with the outer world when infectious disease attacks it. Dr. George Wilson, writing on this topic, says:—"Not only are children from infected houses allowed by their parents to attend school so long as they are not prohibited by public officials or the medical attendant, but it often happens that children who are only affected to a slight extent with one or other of these diseases (scarlet-fever, measles, &c.) are permitted to go to school as usual, and thus become certain and dangerous centres of infection." That this is very far from a healthy state of matters, and that such carelessness is culpable and criminal in the highest degree, goes without saying.

The inmates of a fever-infected dwelling should in the first place see that the patient is placed in a room separated, as completely as possible, from the rooms occupied by the other members of the household. Where a small house is attacked, and where it is impossible, as in the houses of the poor, to isolate a patient, there can be no question of the advisability of seeing the patient safely and comfortably housed in a hospital. The patient in such a case will be better tended than he could possibly be at home; whilst his surroundings in the hospital will be of a vastly superior kind to those wherewith he would be encompassed in the small room of an ordinary house. Consideration for the safety of the healthy should also weigh with us in such a case. The prejudice against hospitals is fast dying out, we are glad to say. For the sake of limiting the spread of infectious diseases, it is much to be regretted that this prejudice has not become thoroughly and for ever extinct.

"Isolation" and "separation" of the patient at home, is thus the first stage in the domestic policy for the limitation of the spread of disease. We shall see in our next the additional precautions which should be exercised in the family circle to which fever has gained access.

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WORDS OF WISDOM.—The practical lesson is that, whatever be the figures taken, an enormous outlay on efficient sanitary measures may prove to be an actual and great economy, and result in a saving not only of life, but of wealth. "Nothing is so costly as disease, excepting death; no waste is so extravagant as the waste of human life."—*Lancet*.

EXHIBITION OF DRESS AND DECORATION IN RELATION TO HEALTH.—Arrangements have been completed for an exhibition of hygienic dress, sanitary appliances, and household decoration, under Royal and distinguished patronage, and under the direction of the National Health Society, at Humphrey's Hall, Knightsbridge. The exhibition will be opened on June 2 next. A meeting in furtherance of the object will be held at an early date at Grosvenor House, by permission of the Duke of Westminster. The exhibits will be divided into seven classes, and will include sanitary appliances, ventilation, appliances for the nursery and for the sick-room, and general objects of sanitary construction and decoration in houses and hospitals.



## Healthy Houses

"A happy home must be a healthy home."—Anon.

### THE ENGLISHMAN'S HOUSE.

By CHARLES WESTWOOD.

THE idea that "the Englishman's house is his castle," is one which, happily, in a legal sense, is hardly to be disputed. The disciples of Coke and Blackstone favour the notion that within his domicile the rights of the Briton are many and strongly fortified. In a sanitary sense, the maxim, unhappily, is anything but true, if, by the term "castle," we are to regard the English house as a tower of strength and health. It needs but little sanitary knowledge to point out that most of the details of house-structure, as presented to view at present, are singularly liable to predispose to disease of serious kind. Everywhere around us there are tales of typhoid fever produced by bad drainage. The reports of "Sanitary Protection Associations" show us that even high-class houses may be anything but satisfactory in a sanitary sense. Now, it is the story of diphtheria which has been traced to a defective water-supply; now, the tale of ill-health through bad ventilation and over-crowding.

Stories are common of the enormities of "jerry-builders" who buy used-up pipes, and patch together pipes that do not fit, to make drains which, instead of being water-tight and safe, leak at every joint, and sometimes end blindly in a garden, which, in due course, becomes a hidden cesspool of filth and a hot-bed of disease. There are cases innumerable, also, of water cisterns that are never cleansed, or so much as thought of; and of others which receive from untrapped pipes a continual supply of sewer gases. Last, and by no means least, there come to us the announcements of houses built on so-called "made-up" ground—erected over rubbish and filth-heaps, which breed the fevers that every doctor knows appears unfailingly in the new tenements, which ought to be, of all others, healthy, clean, and pure.

If any one thinks this indictment against "the Englishman's House" is too strongly drawn, we can only ask him to give us his attention as the weeks speed by. As time passes the pages of HEALTH will teem with instances which have become historical in sanitary records, and which show how our domestic surroundings may slowly but surely destroy health and land us in an early grave. But a recently-reported case in the *Lancet* affords a text whereon may be founded some powerful illustrations; firstly, of the common dangers of the house; and secondly, of the urgent crying need for reform. The account to which we direct attention is given by Mr. Kesteven, of Holloway-road. In February last, Mr. Kesteven tells us, he had the misfortune to lose three patients in one family from "diphtheritic croup." The whole family—father, mother, six children, and a servant—suffered primarily from blood-poisoning. Three of the children died, and in their cases the common condition represented by the blood-poisoning assumed the special phase of diphtheria. The cause of the general condition and the latter disease which ultimately appeared to cause the fatal issue, was not difficult to find. Mr. Kesteven, like a wise doctor, suggested an examination of the drains. Here is his statement of what met his view:—"The house being one of a row, the drains passed directly under it—from back to front—in order to reach the sewer." Sanitary infringement number one: No drains should pass under any part of the floor or basement of a house. "Directly under the house it was found that the pipes composing this drain had

dropped apart, that they had never been properly cemented or firmly connected to each other, but that they had been stuck together with clay, and THE RESULT WAS THREE DEAD CHILDREN." Is it possible to read this simple and touching account without feeling a strong touch of remorse at the social or other conditions which, in an age of progress, permit such an enormity to be perpetrated in our midst? The bitter lessons of the family should begin at length to tell upon the nation. If we are ever to grow wise in health matters, it is only by laying to heart such an experience as that detailed by Mr. Kesteven, and by literally setting our households in complete sanitary order.

The workman or builder who constructs a house of which defective drains of the type described by Mr. Kesteven form a notable feature, is guilty of what that gentleman calls "villany, if not downright criminality." Medical science tells us that the man who constructs a house and who leaves the drains in such a condition as will permit sewage matter or gases to affect the inmates, is morally as guilty of homicide as the man who wilfully poisons his neighbour by administering a dose of aconite, or who slays his fellow-man by a blow. The time will come, perchance, when this killing by bad workmanship will be treated as a criminal offence; let us add that better days will dawn when such a mode of house construction becomes an impossibility. Mr. Kesteven's further remarks are worth quoting and remembering:—"Repeatedly has it occurred to me to meet with obstructed or broken-down drains caused by bad work; and this is my point—who is responsible? The workman, no doubt, is guilty of scamping the work; but what can be expected of such men as these? Still, be the workmen bad as they may, there is no reason why this wholesale manslaughter should go on. The real responsibility rests upon the employers of the labour, the master builders. If they were honestly to look after the work which they have contracted to do, it could not thus be scamped. Then, again, how comes it that the parochial surveyors have not detected the blot? Can it be, as is freely asserted, that they are 'squared by the builders,' and overlook the work with their eyes blindfolded? Whatever the reason is, there is a blot somewhere. . . . It seems to me that the only way of meeting these evils is to make some of the guilty ones smart. Suppose a medical man refused to give a certificate in some such case, and referred the matter to the coroner, can it be doubted for a moment that, if inquiry laid bare the fact that the death was due to blood-poisoning, and the blood-poisoning was due to bad work in the construction of the drains, can it be doubted, I say, that the jury would call it manslaughter on the part of those responsible for that work, whether it was workman, master, or surveyor? When a few unfaithful workmen and masters have been brought to book, we may, perhaps, have some improvement, but not till then."

These are the words of a man thoroughly in earnest. We re-echo the sentiments of Mr. Kesteven most heartily, and we may add that it will afford us pleasure to publish communications from all who have like cases to report. We invite the public to state in our columns their experience of bad drainage. On the *audi alteram partem* principle, we invite the surveyors, builders, and workmen to contribute their quota of information regarding drain formation and house construction. HEALTH in this respect is at the public service; and if we can ventilate abuses in the earnest hope of reforming them, part of our correspondence columns is at the disposal, week by week, of all who care to aid the good work of sanitary progress.

Referring to the above case reported by Mr. Kesteven, the *Lancet*, under the title of "Death in the Drains," remarks:—"We direct attention to a letter in another



part of our issue to-day, showing the frightful condition of the drains of some houses, and the terrible consequences which ensue. In this instance a whole family was affected with blood-poisoning, and no less than three children died of diphtheria. The evident tendency to a reappearance of diphtheria gives a more serious importance still to such a fatality as is very properly put on record. We entirely agree with Mr. Kesteven that a medical man would do well in any similar case to refuse a certificate and demand an investigation by the coroner. Medical science is mocked by such poison factories as are created by unprincipled workmen and their equally unprincipled employers, who will not do better till they are exposed and punished."

**RATS AND INSANITARY HOUSES.**—Professor Huxley recently presided at the second annual meeting of the London Sanitary Protection Association. In the course of his opening address he said he had found that there was a great body of extremely active and unpaid sanitary inspectors, to whom he was sufficiently ungrateful to say that he should be glad to hear of their immediate extirpation. These sanitary inspectors were rats. He had had a curious example of their action in his own house. Some time ago it had been reported to him that there were rats in a particular room in the basement. The rats came from the rats' place, the sewer, and if the rats could come from the sewer, all other abominable things could also get up. He had the floor of the room at once taken up, and a very curious state of things had revealed itself. When the house had been built, a particular drain of an unimportant character had been designed to lead out in a certain direction. It had afterwards been led in another direction. The business of the builder and his workmen naturally should have been to close up the drain in the one direction which had been finished, and to carry it out in another way. That had been done with a degree of carelessness and a neglect of common precautions which was absolutely criminal. The bricklayers had not taken the trouble to shut up a small opening in the drain. For twelve years there had been in the house that connection between the sewer, the drains, and the basement of the house. Had it not been for the rats, this connection would not have been discovered, even by the most careful of inspectors.—*Standard*.

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**ARSENIC IN EVERYDAY LIFE.**—The Foreign Office has, at the request of the National Health Society, 44, Berners-street, addressed a communication to its representatives abroad, desiring them to report on the existing legislation in continental countries with reference to the precautions and restrictions imposed on the manufacture and sale of articles in which arsenical pigments are employed. A committee has been formed in connection with the society, for investigating the subject of arsenical poisoning, and reports have been prepared by Dr. Lauder Brunton, F.R.S., and Professor Heisch, F.R.S., on the medical, chemical, and sanitary aspects of the question, and a Bill has been drafted with the object of requiring that, in the case of articles manufactured with arsenical pigments, due notice should be given to the purchaser. A considerable body of information was laid before the committee, showing that the use of arsenical pigments was not confined, as was popularly supposed, to the preparation of green colours, but that numerous cases of arsenical poisoning had occurred in families living in rooms hung with mauve, red, fawn, and other coloured paperhangings in which arsenic was freely used, and from which arsenical powders floated into the air.—*British Medical Journal*.

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson*.

### THE RELATION OF RECREATION TO WORK.

By E. B. MACLAREN.

It has sometimes been said that the proverb "All work and no play makes Jack a dull boy" finds heartier acceptance in the eyes of the lazy than in those of industrious members of society. It is thus inferred that the latter are opposed to play and recreation as unnecessary items of existence. But, fairly argued out, the "idle apprentice" is no type of the fruits of healthy recreation. Idleness and recreation are two features of life, which none but the wilfully blind and illogical could ever confuse. They are thoroughly opposed to each other, and are, in fact, contradictory terms. To the idle man recreation, like work, is distasteful. He finds no pleasure in pastime; and the indolence that is part and parcel of his constitution, absolutely indisposes him to indulge in any sport, however health-giving and pleasurable it may be. The busy man, on the contrary, is he who most keenly enjoys recreation. It is to him the unbending of the social, physical, and mental bow, which will in due time be the more easily bent for work, because of the relaxation it has enjoyed. In truth, recreation can be truly appreciated only by those who work, and it is an all-important maxim *that recreation should bear a distinct relation to work, and that it should be regulated so as to make the recurrence of work readily and willingly welcomed*. In some such maxim as the preceding, the health-relations of recreation and work are to be found. The true and, indeed, the only use of "recreation" is to serve as an aid to health. Were this principle more universally recognised, recreations would be more wisely chosen, and more judiciously indulged in, whilst common errors—to be duly noted in these pages—of our leisure hours would be avoided and ill-health prevented. Life, viewed physically, is, in fact, a kind of "see-saw," which works in perpetual oscillation. At one time it is the working end of the plank which is weighted; at another, it is the recreative end. But the regular movements of the machine depend for their continuance as much on the efficiency of one side as the other. Any tendency to undue weight at either end is fatal to the harmonious action of the whole. And so with our physical life. Let work become excessive and overbalance wise recreation, under whatever form our play appears, and health-disturbance will assuredly follow. Conversely, with undue and unwise efforts in the direction of recreation, work, which normally and naturally performed ought to be a pleasure, becomes a burden; and ill-health, weariness, and lassitude represent the want of balance in the physiological "see-saw."

Healthy and wisely-ordered recreation, then, is viewed by the health-reformer as one of the most important departments of sanitary science. One plain contention underlies all considerations on this head—namely, that in the formation of a sound physical constitution, exercise and recreation play an all-important part. When a certain section of thinkers is found to decry physical exercises, and to condemn sport in unmeasured terms, they forget the patent truth that a human body has bones, muscles, and sinews, as well as brain and nerves. They lose sight of the fact which physiology teaches—namely, that unless brain and nerve are supplied with pure blood, laden with the vivifying oxygen, thought and study become sheer



impossibilities. On the other hand, those who regard a human body as merely an elaborate arrangement of lungs and levers, which are only adapted for being shown to advantage in the field, are equally unwise. They forget that it is possible to have too much "muscle" and too little "mind," and they sacrifice in an unjustifiable manner the mental to the physical interests. "Recreation," in the best and widest sense of the term, has been sorely prejudiced by the battle between brain and biceps. As usual, the opponents in such a contest forget the old adage concerning the truth and the safety that lie in a middle course. Worst of all, they handicap the efforts of the health-reformer, whose business it is equally to encourage wise efforts to improve the physical constitution, and to endeavour to avoid excess or danger in the use of physical exercises.

"Recreation" is naturally identified with amusement, and becomes in common language, synonymous with that term. Recreation might, perhaps, be better defined as the means of amusement, and it is in this light that the sanitarian and physiologist are accustomed to regard the former name. There is no lack of evidence, drawn from the highest sources, to show that for health, "amusement" is a necessity, and it lies strictly within the department of physiology to show how the various forms and modes of recreation relate themselves to modern life. In future articles we hope to deal with this aspect of the subject. The foundation of health in one sense, lies in the wise adjustment of our amusements and our life and work. The gravest warnings of science ring out against the folly, practised by thousands, of making a toil of pleasure, and of indulging in recreations for which they are either physically unfitted, or which are entirely unsuitable to the daily labour of those who practise them. It has been well said that many a man's health is ruined through his recreation being unwisely chosen; and medical science confirms the observation. For example, it is a dangerous and unsafe expedient for a man whose daily labour involves hard muscular exertion, to indulge in sports and recreations that make a similar demand upon his constitution. Many a lad, ardent in the ranks of the volunteers, or heading a bicycle or football match, is, in reality, burning the candle at both ends. He is working when he should be resting; and he is qualifying, not for a sound constitution, but possibly for a weakened heart and shattered nerves in after life. Conversely, there are thousands, who, pent up in offices and kept at sedentary employments day by day, would find immense benefit by participating in active but moderate physical exercise as a means of recreation. It is the wise choice of exercise and recreation that we argue for as a primary feature in the discussion of this great and national question. And it is useless to attempt to place any facts before the public, until the truth is appreciated, that for health our recreation must bear as clear and defined a relation to our life and work, as does the food we eat to the labour we accomplish.

**A MEDICAL VIEW OF FOOTBALL.**—We have frequently spoken in condemnation of football as a game, as played according to the present rules. Casualties among the players are extremely frequent, and we have recorded in these columns an enormous number of fatalities. It has been urged against our objections to the rough-and-tumble nature of the game, and its extreme danger, that the risks attending it are not greater than what occur in the hunting-field or in Alpine climbing. This objection, even if true, would not stand, since the argument that because

one amusement is dangerous, another, equally dangerous, may be permitted, is absurd. But the cases are not parallel. In the hunting-field, at least, if a man comes to grief it is the fault of himself or his horse; nobody lives to blame himself for having crushed or stamped the life out of a fellow-creature. But not only ought the rules to be modified to prevent injury to the strong and healthy, but it should be made incumbent on secretaries and captains of football clubs to see that no member of a club be allowed to engage in club matches unless free from heart or other organic disease. In no game played is there such stress thrown on the circulatory system, and a "heart" that might stand any ordinary strain gives way under such pressure. A fuller inquiry than can be held at a coroner's inquest is called for when such deaths occur. At present the verdicts of the coroners' juries are not satisfactory; the deaths may be "accidental," but they are preventable. We fear, too, that many acts of undue violence are often hushed up "out of consideration for the feelings of others."

—*Lancet.*

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**PHYSICAL EXERCISES AND THEIR REGULATION.**—I think I have said enough as to the effects of physical exercise on the vital function of the body to justify what I will now lay down as a proposition, that physical exercise is of the greatest importance to mankind throughout life, and in young and growing people its value is simply beyond calculation. Let us now rapidly consider some rules for the regulation of physical exercise. 1. It should be conducted in an abundance of fresh air, and in costumes allowing free play to the lungs, and of a material which will absorb the moisture, and which, therefore, should be afterwards changed—flannel. 2. There should always be a pleasant variety in the exercise, and an active mental stimulus, to give interest at the same time. 3. The exercises should, as far as possible, involve all parts of the body and both sides equally. 4. When severe in character, the exercises should be begun gradually and pursued systematically, leaving off at first as soon as fatigue is felt; and when any real delicacy exists, the exercise should be regulated under medical advice. 5. For young people, the times of physical and mental work should alternate, and for the former the best part of the day should be selected. 6. Active exertion should be neither immediately before nor immediately after a full meal. Had time permitted I might have said something about each of the rules, but I must content myself with merely enumerating them just now, as it has been my intention in the present lecture to make clear the general principles which underlie all physical exercise, without trying to explain their practical application. I have taken this course specially because one is struck in every-day life by the want of sound knowledge on this subject. Most people are content to think that physical exercise is mere "play," to be indulged in occasionally, but not systematically, and that it is not by any means a necessary part of young people's education. I can quite fancy some good people here to-night saying, "Why make all this ado about physical exercise? We had no regular gymnastics, no athletic or football clubs; yet here we are, well and strong still. Why should not the young people nowadays do as we and our fathers did?" Now, supposing some one has said this, as is more than likely, I will try to give you my answer as shortly as I can. I must, then, to begin with, remind you that in every particular we are living at a much higher pressure now than we were even at the beginning of the present century; the rapid introduction of steam and electricity has, so to speak,



concentrated our country, and in fact the civilised world, four or five times over; the population in our little island has increased enormously in the last fifty years, and the competition for all means of livelihood has increased at a similar rate. Thus, a striving to excel one another has been a marked feature of our life, imposing on all a mental strain which our quieter forefathers knew nothing of. Then the population in the towns has been increasing out of all proportion to that of the country, thus raising entirely new aspects of our problems of social life. In older times, when the towns were smaller, and business and professional life less exacting, it was easier to find time and opportunity to get into the country and counteract the influences of the confinement of the town, and the strong, fresh population from the country was constantly infusing new blood into the towns.—Dr. Cathcart, in "Edinburgh Health Lectures."

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**EDUCATION AND INSANITY.**—The number of the male inmates of the lunatic asylums in Prussia is computed at 12,706. The public asylums for the insane in 1878 contained 877 male inmates belonging to the educated classes, amongst whom were 227 officials, 179 professors or schoolmasters, 95 architects, as many clergymen, 61 chemists, 57 doctors, 12 veterinary surgeons, 10 actors, or other artists, &c. In 1879, among 13,365 insane male patients, 306 of the patients all belonged to the same class; 252 officials, 161 professors or schoolmasters, 67 clergymen, 52 chemists and druggists, 49 doctors, 5 veterinary surgeons, and as many actors and other artists. In the same year there were in the asylums 189 students, and 671 insane patients from fifteen to twenty years of age.—*London Med. Record.*

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**LONG HOURS AND HEALTH.**—Inquiries into railway accidents have shown, over and over again, that the safety of railway travelling is daily imperilled by the employment of railway signalmen and pointsmen under circumstances which render the exercise of vigilance in their very responsible duties difficult or impossible. Many a so-called accident, involving destruction of human life, has plainly arisen because an unfortunate signalman or pointsman has at last failed to be on the alert at his post, after twelve or more hours of continuous and exhausting night-work. The safety of the public demands that the evil should be put down once and for all by stringent enactment. Major-General Hutchinson, in reporting to the Board of Trade on the circumstances of an accident which recently happened at Essendine, on the Great Northern Railway, describes it as due to an extraordinary mistake on the part of a signalman in moving a lever. He adds:—"He had no motive for the action, and was not in the habit of moving the lever. It must, however, be remembered that, at the time of the collision, he had been on duty for eleven and a half hours; and it is by no means improbable that he had become drowsy, and had unconsciously pulled over, and then put back, this lever, without recollecting what he had done. It is, I am certain, unreasonable to expect signalmen to retain the full use of their powers at the end of twelve hours' night-work; and I would strongly recommend that, in those signal-cabins where the work is not sufficiently important to allow the regular employment of three signalmen, some arrangements should be made for dividing the night-work into two periods of about six hours each. Any such arrangement would, I know, be unpopular with the signalmen, but I am convinced that it would conduce to the safety of railway travelling."—*British Medical Journal.*

## Findings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**THE "LANCET" ON THE CRINOLETTE.**—A criticism of the details of male and female attire comes legitimately within the scope of medical practice, and at a time like the present, when so much attention is being paid to what is vaguely known as "hygienic dress," that criticism may not be out of place. The most recent fashion in female dress is prominently characterised by the "crinolette," a structure of cunning and mysterious workmanship, with the outward and visible signs of which we are being rendered very familiar. The crinolette is to the crinoline what varioloid is to small-pox—a mild and modified form of a serious affection. The æsthetic value of this strange garment and its significance as a means of decoration we do not propose to discuss, although if it be true that "dress is to the body what language is to thought," it would be interesting to ascertain what this deforming protuberance is intended to express. We can look at it only with physiological eyes, and even from such a limited point of view the garment is interesting enough. In the first place, this conspicuous appendage is heavy; its skeleton is, we believe, of steel, and its soft parts of horsehair; and it must add not inconsiderably to the burden to be already borne by the fashionably-dressed female. It would not, perhaps, be difficult to demonstrate the exact amount of unnecessary waste of muscular force that the wearing of the excrescence involves. Not only, be it noted, has the sheer weight to be carried, but there must be a good deal of fine muscular action required to adjust the body when erect to this slight but certain disturber of its line of gravity. In the next place, the crinolette offers a distinct impediment to the act of walking, and in this way again involves considerable muscular activity. As a feature in out-door clothing, therefore, it appears singularly inappropriate. Moreover, it is very desirable that the body should be as evenly clad as possible, and that its temperature should be maintained in all parts at one uniform level. The crinolette very grossly disturbs this principle, and by keeping a mass of unnecessary clothing over one part of the body, throws an undesirable strain upon the heat-regulating properties of the skin. This garment, moreover, is secured round the waist, adding one more constriction to that part, one more burden to be borne about it, and making one more addition to its already too numerous coverings. Lastly, the crinolette even now bids fair to compete with the crinoline in encouraging a prevalence of "deaths from fire."

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**DISINFECTANTS.**—In connection with the above topic, the following information, contributed by Mr. Mattieu Williams to the *Gentleman's Magazine* will prove of interest. Mr. Williams says:—"When the household of our grandmothers was threatened with infection, the common practice was to sprinkle brimstone on a hot shovel, or on hot coals on a shovel, and carry the burning result through the house. But now this simple method of disinfecting has gone out of fashion without any good and sufficient reason. The principal reason is neither good nor sufficient, viz., that nobody can patent it and sell it in shilling and half-crown bottles. On Sept. 18 last, M. d'Abbadie read a paper at the Academy of Sciences on 'Marsh Fevers,' and stated that in the dangerous regions of African river mouths, immunity from such fevers is



often secured by sulphur fumigations on the naked body. Also that the Sicilian workers in low ground sulphur-mines suffer much less than the rest of the surrounding population from intermittent fevers. M. Fouqué has shown that Zephyria (on the volcanic island of Milo or Melos, the most westerly of the Cyclades), which had a population of 40,000 when it was the centre of sulphur-mining operations, became nearly depopulated by marsh fever when the sulphur-mining was moved farther east, and the emanations prevented by a mountain from reaching the town. Other similar cases were stated. It is well understood by chemists that bleaching agents are usually good disinfectants; that which can so disturb an organic compound as to destroy its colour, is capable of either arresting or completing the decompositions that produce vile odours and nourish the organic germs or ferments which usually accompany, or, as some affirm, cause them. Sulphurous acid is, next to hypochlorous acid, one of the most effective bleaching agents within easy reach. I should add that sulphurous acid is the gas that is *directly* formed by burning sulphur. By taking up another dose of oxygen it becomes sulphuric acid, which, combined with water, is oil of vitriol. The bleaching and disinfecting action of the sulphurous acid is connected with its activity in appropriating the oxygen which is loosely held or being given off by organic matter. Chlorine and hypochlorous acid (which is still more effective than chlorine itself) act in the opposite way, so do the permanganates, such as Condy's Fluid, &c. They supply oxygen in the presence of water. It is curious that opposite actions should produce like results. A disquisition on this and its suggestions would carry me beyond the limits of a note. The above-named disinfectants are objectionable on account of their odours and their corrosive action. Both sulphurous acid and hypochlorous acid (the active principle of the so-called 'chloride of lime') have a disagreeable habit of rusting iron, and suggesting antique green bronzes by their action on brass ornaments. Under serious conditions this should be endured, but in many cases, where the danger is not already developed, the desired end may be attained without these annoyances."

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THE ANALYSIS OF MILK.—It has been over and over again shown that the quality of milk given by some cows is very indifferent, while the lacteal fluid of others is superior. Sometimes a cow is a bad feeder, or it may be that its food produces more water than casein; and, on the other hand, there are many dairy cows which, though indifferently fed, give a good account of themselves at the milk-pail. We are not surprised that dairy farmers, when summoned for adulterating their milk with water, should place these facts before magistrates. It appears that at Glasgow, recently, samples of milk from the same cow were forwarded to different chemists, who were requested to analyse the samples sent, without any hint as to their origin. It was found, on comparing the analyses afterwards received from them, that the chemists not only differed from each other, but differed also from themselves in their analyses of separate samples of the same milk. When analysts differ, who is to decide?—*Live Stock Journal*.

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"PUNCH" AS A HEALTH REFORMER.—The daily newspapers, in their careful reports of many details relating to health, are certainly to be regarded as powerful educators of the people in sanitary laws and science. From our contemporary *Punch*, we take the following admirable and pungent verses, founded on a recent *Times* report,

the substance of which is given by *Punch* as a heading to the poem. We need not add that the practice of building houses on "made-up" soils is one condemned by all sanitarians.

#### BUMBLE AND THE TROGLODYTE (CAVE-DWELLER).

("Extremes meet."—Old Adage.)

[See case "*Goodacre v. Watson*." Mr. WATSON had been utilising "soft core," consisting of animal and vegetable refuse, as a substitute for the gravel he had dug out, in preparing a place called Dancers' Land as a "site for houses." "The Fulham Local Board perceived no impropriety in his proceedings."—*Times*.]

Bumble.

River-drift Man, garmentless Cave-dweller,  
Primitive party, early ichthyophagist,  
Poor flint-chipping, troglodytish varlet,  
How I pity you.

\* \* \* \* \*

Troglodyte.

Humph! I've been perusing certain Law-reports,  
"*Goodacre v. Watson*"—that was one of them.  
Dancers' Land! do you know that locality,  
Gorgeous Being?

Bumble.

I—oh—come now!—that is, really, Troglodyte,  
Can you read, who antedated CADMUS  
By as many years as the tail of a comet  
Has of inches?

Troglodyte.

That's irrelevant! Strikes me, Fulham's dustbins,  
And road-scrappings swept from wheel-worn Kensington,  
Seem suggestive of more utter nastiness  
Than my Cave was.

Cinders, ashpit refuse, brick-kiln rubbish,  
Midden-muck and vegetable rottenness,  
Are "foundations" I should not have cared about  
For my domicile.

Earth and fish-bones make a concrete passable,  
But *your* compost, nasty and malodorous,  
The "soft-core" of Dancers' Land!—no, verily,  
'Twere too horrible!

Therefore, doubt I, Man of garb astonishing,  
If, with all your Boards and Jerry Builders, you  
Have improved so much upon the Troglodyte!

Bumble (disgustedly).

Oh! get out with you!

♦ ♦

HOW THEY MAKE "COD-OIL" AT SWAMPSCOTT.—Swampscott is a little town upon the coast of Massachusetts, not far from Lynn, situated near the head of a bay between Nahant and Salem. Off this ancient haunt of fishermen, at a distance of about nine miles, is a place called the "rocks," where, in the winter, the codfish come in shoals to spawn, and the striped bass sport themselves in the summer. During the winter months, be the weather what it may, unless the wind be rising for a gale, a little after midnight men may be seen going about the village, stopping here and there at houses, rousing the fishermen, who by-and-by gather in groups about the shore, each with his "dory," that well-known model of Yankee ingenuity which at the great Berlin Fishery Exhibition excited so much attention. The dories and their owners are soon aboard the various schooners in waiting, and by five a.m. the fleet is at the "rocks;" so, when the daylight is sufficient, the dories anchor about their respective larger crafts, each boat with its single occupant, who is soon hard at work robbing the sea of its life. About three p.m. the signal is given from the schooners to come aboard; the dories hasten to their floating castles, with pitchforks



the various "catches" are soon thrown aboard, and sail is made for home. During the passage the fish are gutted, the entrails cast into the sea, and the livers—some of them large enough to fill a quart mug—are put into baskets. When the shore is close at hand, the fish are put again into the dories; but the roughness of the sea usually is such that these boats, when loaded, cannot land, and into the icy sea-water the horses are driven until the carts reach such a place that the codfish can be put in them, when off they go, to plod the night through for the early Boston market. The livers are immediately sorted over and the gall-bladders carefully removed. The great, luscious, flabby masses are thrown into a large oak tub; with this are connected steam-pipes. When the receptacle is full and closed, low-pressure steam is turned on, and for about two hours and a half cooking goes on. Then the plugs are taken out at the bottom, and the hot oil streams into buckets. It is now placed in butts in the "cooling room," and allowed to stay there until it freezes solid. So it is kept till opportunity offers, when it is put in canvas bags holding about four gallons each. These bags are then placed regularly upon a heavy oak table provided with outer grooves for conducting liquid, until twelve gallons are in a row. On this is laid a slab, then canvas bags, and so layer after layer, until about eighty gallons are piled up. A ton of pig-iron is then placed upon the top slab of oak, and the oil begins to flow out. In about twelve hours dripping ceases, and the apparatus is taken apart. Inside of the bags is found a yellowish, butter-like mass as hard as tallow, which is nearly pure stearin, with liver *débris* and fibres. This goes to the soap-makers, whilst the oil finds its way to the Massachusetts General Hospital and other places where the superiority of the finest American oil over the Norwegian is recognised.

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**HEALTH, VEGETABLE MARKETS, AND BREAD.**—The vegetable markets in a town of health require, in like manner, systematic supervision; so that fruit and vegetables laid out for sale shall be cleansed from living and dead impurities, which are causes of affections of a parasitic nature. The staff of life, the bread of our Health Resort, that gives good health on every hand, deserves, finally, a careful treatment in production. The oldest art in the world is, perchance, the art of making bread; and yet it is of all arts the one least advanced as a pure and cleanly process, healthful alike to those who make and those who take. The more we examine the condition of bakeries in town and country, the more as sanitarians we wonder that human beings can be found, at any price, to undergo the penalty of being enslaved often half the night underground, exposed to the most varying temperatures and foul air, and engaged in a labour that is as laborious as it is unwholesome. The more, also, we wonder that sensible people should be content to eat of bread made under such conditions, and worked as dough by the naked limbs of the unhealthy workers. For all sakes, the bakeries in every town call for incessant supervision, for perfect sanitary construction, and for the introduction of the pure and simple process of manufacture by machinery, Dauglish's unfermented method.—Dr. Richardson, in *Longman's Magazine*.

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**VARIETY AND FASHION IN DRESS.**—Variety is the salt of life; the prettiest colours and most graceful shapes, if seen continually and in masses, will weary the eye. The reason why fashions change so rapidly now is because they at once spread through every stratum of society, and become dete-

riorated and common. But even this ought not to goad us on in a wild race of senseless and sometimes ugly experiments.

Be plain in dress and sober in thy diet. is advice on the side of which it is safe to err, and the excessive craving for something new is often bred by idleness. When the mind is occupied, outside objects assume their true value. What was beautiful yesterday is beautiful to-day, and remains so until some new necessity springs up to replace it. We ought ever to remember that repose of mind and body is a paramount charm; repose of mind is fascinating, repose of body is dignified; neither can exist without complete comfort and fitness in dress. To see a lady wildly struggling in rain and wind in a tight skirt with long train appears ridiculous to us; to her it is pain. A well-dressed woman will always look happy in her clothes. It is everybody's duty to appear as nice-looking as possible—

Still to be neat, still to be dressed  
As you were going to the feast.

We rarely catch a sight of ourselves in the looking-glass, but others are constantly obliged to see us. We bestow care and thought upon our houses and gardens, then why not upon ourselves? A little thought, a little knowledge, and a little common-sense will help us far more than wasting time, money, and artifice. The smallest thing of beauty is a joy for ever; beauty elevates our thoughts and lightens our troubles, and when brought up to it, our children's minds take the impress, and are guided by a fitting sense of form and colour, and learn easily to distinguish and appreciate what is good in art.—Lady Paget, in the *Nineteenth Century*.

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**PRECOCITY AND EDUCATION.**—Thanks to the system of comparative examinations, Macaulay's model school-boy would now-a-days be regarded as next door to an ignoramus by the pale victims of "cram." But, without attempting for a moment to question the advantages of high-pressure education, without even asking whether its prize scholars very often prove *poor* men, we would most respectfully direct the attention of enlightened pedagogues to a couple of rather significant items of news from abroad. On Feb. 13 two students at the public school at Prague shot themselves on account of receiving bad testimonials for the past half-year, and another threw himself under a passing train at Königgrätz, and was crushed to death; and within the last month, at Meidling, a suburb of Vienna, a boy only eleven years of age, who attended the Real (commercial) School, committed suicide by hanging on account of a task imposed upon him as a punishment, and because of the reproaches of his mother for not making greater progress in his studies. While admitting that the course of study is far more severe in Continental than in English schools, such appalling facts as these are, we submit, worth studying. For it seems possible that over-education may be a worse evil than ignorance, inasmuch as ignorance generally considers life worth living, whereas juvenile omniscience not seldom prefers the "happy despatch." Within the last four years no less than 238 children between the ages of seven and fifteen have committed suicide in France. The inference is obvious. All work and no play makes the Jack of the present day a very dull boy indeed—so dull, that he is apt to consider suicide a minor evil. Perhaps he is wrong in imagining that "civilisation is a failure," and that "the Caucasian is played out." But, at any rate, he displays the courage of his convictions, and those convictions are therefore worthy of the attention of the advocates of competitive examinations.—*Sunday Times*.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Convalescent Cookery: A Family Handbook.* By CATHERINE RYAN. (London: Chatto & Windus.)

THE care of the sick, as Miss Ryan remarks in her preface, is a duty which devolves upon most women at one period of their life or another. Yet it is, of course, a truism to assert that there are very few persons who are properly qualified to discharge the duties of nurse or attendant upon the sick and ailing. For the qualifications of a good nurse are far more numerous than people have hitherto been given to allow. "Nursing" is a faculty which, as often as not, "comes by nature." There are persons who, to use a common expression, are "born nurses." They seem to anticipate their duties by a kind of intuition; they learn to perform their work accurately and without trouble; and they stand out in plain contrast to others who seem to find the duties of tending the sick burdensome and unfamiliar. Miss Ryan, in the interesting and most instructive little volume before us, does not, indeed, attempt to enter into the details of nursing duties; but she deals with one of the most important phases of sick-tending, namely, that which seeks to prepare the food of the patient in an agreeable, nutritious, and, above all, a skilful fashion. A well-known surgeon has been found to declare that not one cook in a hundred can make "beef-tea" properly; and probably experience shows the surgical dictum to be founded on fact. Miss Ryan has an important passage, which will appeal to all mothers and nurses, when she says, "Every woman in her own home can learn how to cook for sick and feeble people. As a general rule, they require nothing elaborate; but to turn out a mutton-chop daintily, to be able to improvise a refreshing drink which will be harmless, to know what has made the beef-tea undrinkable, are things which, though not generally known, ought to be, by every woman in the world." These are weighty words; but they are more than justified by the experience of every-day life.

That which strikes us most forcibly in perusing Miss Ryan's book is the thorough manner in which she enters into every detail connected with the special topic on which she writes. Her work is, in fact, a book of "cookery proverbs," for our authoress writes tersely and well, and lays down plain rules which cooks of all kinds, whether engaged in convalescent cookery or not, would do well to follow. As an example of the practical spirit which animates Miss Ryan's counsels, take, for example, part of her advice to cooks in general. Everything "should be scrupulously clean, as well as faultlessly neat. Cover the tray with a white cloth always, no matter how cheap the material of which it may be. The sight of a black tray, perhaps one which has seen better days, will not improve a sick person's appetite (nor, we may add, that of a hale and sound person either). Never fill a huge tray with a cover-dish and one or two large plates, and a great carving-knife and fork. Anything which suggests weight to the patient, fatigues. There are nurses who would not only bring up such a tray, but would deposit it on the bed." Here is another piece of proverbial philosophy which in the care of the sick is too often overlooked:—"Claret in a mug, perhaps in a tin, water sipped from a big spoon, beef-tea in a saucer, new milk in a large, coarse bowl, Liebig's Extract in a tumbler—all seem to change their natures under conditions unsuitable to them. In health, people are aware of some of these distinctions; so think of

them, remembering how illness intensifies nervous temperaments, making a patient feel absolute pain under what is apparently but a trifling affliction, and multiplying in every one, tenfold at least, the power of suffering."

We should like to see Miss Ryan's book in the hands of every wife, mother, nurse, and young girl, who cares to think how best she may discharge the all-important duties incidental to the care of the sick. We shall make occasional quotations in these pages from this valuable little work. It is one which no household should be without.

**SHELLFISH AS FOOD.**—The soft clam of the northern shores is the species mostly used in America for food, and clam soup is not to be despised. Clams are so abundant on the shores of New England that they are used for bait when fishing for cod and haddock, and the way in which they are prepared is as follows:—The shells are found lying at low water about a foot deep below the surface, with their siphon projecting upwards. This tube is the means of their communicating with the hole through which, at high tide, they are able to get at the water; and after clams are "shucked"—that is, taken out of their shells—they are salted down in barrels for the fisheries. Clams can be stewed for table like scallops, or scalloped like oysters. One of the elders of the first Plymouth colony said that "he and his family had lived for months without bread on the treasures hid in the sand," alluding to the clams on the shore, so they must be nourishing articles of food. The *Venus arenaria*, said to have been found on the English coast, is called in America "Quahang," or the "hard clam." There is also another kind called the "broad sea clam," and the *Chama* is likewise called a clam. It is edible, and found among the lagoons of coral islands, weighing—the fish alone, without the shell—over 20 lb. But these giant clams are not found in northern waters.—*Land and Water.*

**ROT IN SHEEP.**—Very sad reports reach us from certain low-lying districts as to the prevalence of rot in sheep. The full extent of this evil will not be realised at present, but we trust and believe that the mischief is not so widespread as in 1879 and 1880. We have not heard of any attack on dry healthy land, and those who were able to keep their sheep on sound land in the autumn, and have fed carefully through the winter, will, we hope and believe, escape this terrible pest. Feeding sheep will now have a better time; the state of even dry, sound, arable land has been very much against them, owing to the continual rainfall. The amount of food wasted under such circumstances has never been actually made the subject of experiment, but, with wet lair, wet wool, and wet food, it is quite possible that one-half is lost. Certainly, sheep under cover during the short days of winter thrive wonderfully better, and we cannot but think that a great deal more might be done in the way of house-feeding if the subject were properly handled. The great difficulty is to keep the sheep sound in their feet when standing on litter. But it is not at all necessary to use litter. Open latticed floors, with pits under to receive the droppings, answer admirably. Pigs may be fed in the pits, and thus capital manure is made. In early days, it was attempted to tie sheep up by the neck like cattle, but this was so contrary to their nature that they did not thrive; they are gregarious in their habits, and do best in pens sufficiently large to hold half-a-score animals. Strong lands grow the best quality of food, and sheep do well on grass during summer and autumn; and if they could be finished off under cover, would often pay better than cattle.—*The Field.*



## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

This department of HEALTH is intended to serve as a means of eliciting information on all matters pertaining to Sanitary Science.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. Communications intended for the EDITOR to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

Books intended for Review, should be addressed to the Editor of HEALTH, 74, Great Queen-street, London, W.C.

Medical Officers of Health and Sanitary Inspectors will oblige by forwarding their Reports to the EDITOR. Reports of meetings of Sanitary Societies, and abstracts of papers bearing on Health topics, should also be addressed to the EDITOR, at the office. Descriptions of new Sanitary Inventions, Sanitary Appliances, and specimens of apparatus or articles bearing upon and used in sanitation, should also be sent, prepaid, to the office, and addressed to the EDITOR OF HEALTH, 74, Great Queen-street, Lincoln's-inn Fields, London, W.C.

To CONTRIBUTORS.—The staff of contributors to HEALTH being large and fully equipped, the Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

## LETTERS TO THE EDITOR.

### RECREATION AND HEALTH.

SIR,—Permit me to express the hope that in the new Journal, HEALTH, you will devote a special department to the treatment of subjects connected with recreation and games. As a parent, I feel convinced that many lads injure themselves by indulging foolishly, and I may add, ignorantly, in such games as football, cricket, &c. If your journal contains advice to the young on this subject, I think I can predict for it a success.—I am yours, &c.,

A PARENT.

[Our correspondent will see that we have anticipated his wishes.—Ed. "H."]

### A SUGGESTION.

SIR,—Might I suggest that you should include in the programme of HEALTH, sketches of the lives and work of some of our most notable "Health Reformers?" The present generation knows far too little of the life and work of such men as George Combe and Andrew Combe; and biographical sketches of these and other reformers would, I am certain, be acceptable to every one.—I am, yours, &c.,

SANITARIAN.

[We will take "Sanitarian's" kind hint into consideration. Such sketches have been already outlined in our programme.—Ed. "H."]

### HEALTH AND EDUCATION.

SIR,—As a medical man, practising in a mining district, I have long felt the want of a periodical such as I see announced under the name of "HEALTH." I trust amongst the topics to which you will give prominent place, we shall find the relations of Health and Education. Probably none save medical men can fully appreciate how a knowledge of physiology and the laws of health, if imparted at school, will benefit the children of the working classes in saving them from the sanitary pit-falls into which their elders are perpetually falling. As adults, we all know too little about fresh air, foods and drinks, and common causes of disease. In the school, such information can be readily given, and teachers should be encouraged and paid to impart it. I hope to see "HEALTH" in the

hands of every teacher, and I trust you will aid the cause of health and education by ventilating the intimate relations which exist between the two.—I am, Sir, yours, &c.,

A PHYSICIAN.

### COTTAGE HOSPITALS.

SIR,—I do not know whether your programme includes information regarding the construction of Cottage Hospitals and the management of these institutions; but I may be allowed to suggest that a series of papers on these buildings would prove advantageous to already existing institutions, and aid and advise localities contemplating their erection. Permit me to hope you may deal with this subject in HEALTH.—I am, yours, &c.,

ARTHUR RHODES.

[We will deal with the topic above-mentioned at some future period.—Ed. "H."]

## QUERIES AND ANSWERS.

### I.—GENERAL QUERIES AND ANSWERS.

A. C.—Yes. HEALTH is intended for the perusal of all classes of society. It will be written entirely in non-technical language, and the most recent discoveries will be noted and explained.

THETA.—There is a special department reserved for medical queries.

INQUIRER.—The best books on "Health" in general are Dr. George Wilson's "Healthy Life and Healthy Dwellings" (Churchill); and Professor Corfield's "Laws of Health" (Longmans). The latter is a primer of health.

P. S.—Suitable diagrams for the purpose of illustrating Health Lectures are the Physiological Series published by Smith, Elder, & Co., under the auspices of the "Science and Art Department." The Working Men's Union, which possesses, we believe, an office in Paternoster-row, London, also sell diagrams of physiological subjects.

A. D.—See reply to "Parent."

J. HORSLEY.—Our series of papers on "What to do in Emergencies," will certainly include the treatment of poisoning in its more common forms.

RICHARD CROWE.—No. The book has not yet been translated into English.

GEORGE B.—Your question is rather one of botany than of "Health." A "fungus" is a lower flowerless plant. A mushroom is a familiar type of the fungi. See Thome's "Botany" (Longmans).

ALICE.—Spermaceti, or cetaceum, is a substance much used in pharmacy as a basis for ointments, &c. It is obtained from the head of the sperm whale. Its characters are those of a crystalline, pearly-white substance, clear in nature, and which, on the addition of rectified spirit, becomes reduced to a powder.

J. COATES.—No; there is no "small bone" at the elbow. The humerus is the upper-arm bone; then come radius and ulna, forming the fore-arm; and thereafter eight bones forming the wrist. The so-called "small bone" of the elbow, concerning which your friend and yourself had an argument, may have been the top of the ulna, which becomes joined by bony union to the body of the bone comparatively late. Occasionally, but rarely, this process (the olecranon) may exist distinct from the ulna; but normally, of course, it is a part of, and is joined to, that bone, and forms the projection of the elbow.

SLEEP.—We intend to deal with "Sleep" in its relation to Health, and as regards its cause and nature, in future numbers of HEALTH.

A. BOLINGBROKE.—No; a dangerous remedy. By no means use it, or allow it to be used.

TOBACCO.—We may respond at some future date to your inquiry. Nicotine is the liquid alkaloid of tobacco, and there also exists a volatile oil. In tobacco-poisoning, administer powerful stimulants—brandy, ammonia, and strong coffee—and empty the stomach at once.

E. M.—Yes; the subject of "Parasites" will be fully treated in HEALTH.

NAUTICAL.—So far as we know, no remedy has as yet proved thoroughly efficacious in sea-sickness, but one or two remedies are now in course of trial. We shall quote the results, when published, in our "Jottings."

VIOLA.—The use of cosmetics and hair dyes, as a rule, is inconsistent with health. Many of the latter contain lead, and cases of lead-poisoning have occasionally been caused by the use of these articles. Diseases of the skin and hair will have due notice in our columns.

INQUIRER.—For burns, "Carron oil" should be used. If a blister arises as the result of the burn, it should be pricked before applying the oil. The great aim in the treatment of burns is to exclude the air.

A. WELDON.—Vaseline is a preparation of petroleum. It is now much used as a basis for ointments. It is a good application to



sores and to wounds. Combined with carbolic acid it is a useful ointment for the treatment of many skin diseases. The advantage of vaseline is said to be that it does not turn rancid, like many other preparations.

**MATER.**—The "pitting" which disfigures people after small-pox may be lessened, or avoided, by the application of collodion. Any physician will be acquainted with the most approved methods of preventing "pitting." Nothing can be done for the marks of small-pox after the patient is well.

**P. SLOAN.**—Yes; the human heart has four sets of valves, two on each side. They prevent blood "repurgitating" or passing back in the direction it has come. Study any elementary manual of physiology, such as Wilson's "Standard Physiology" (W. & R. Chambers); or Huxley's "Elementary Physiology" (Macmillan).

**AYR.**—We intend to deal with the health aspects of games and sports in our "Recreation" columns.

**A. BOND.**—Generally speaking, nations incline to vegetarianism as we travel southwards. The Eskimo feeds on fats and other foods of animal origin. Fat is a heat-producing food. We believe that vegetarianism is well adapted for many individuals, and we desire to see it have a more extensive trial than has yet been accorded to it. We say this without committing ourselves to the tacit support of vegetarianism as set forth by its more ardent supporters. See Smith on "Foods." (Kegan Paul, Trench, & Co.).

**BETA.**—Carbonic acid gas is, in chemical language, carbonic dioxide (or CO<sub>2</sub>). It consists of carbon and oxygen combined to form a gas. It occurs in nature in deep mines and wells, where it suffocates those who incautiously venture within the limits of an atmosphere charged with it. It is carbonic acid gas which is breathed out from the lungs and gills of animals, as part of the waste of their bodies.

**BIOLOGIST.**—It is possible that when the present features of our programme have been sufficiently advanced, we may devote attention, incidentally, to the diseases of lower animals in relation to human health. Consult a manual of veterinary medicine.

**C. SHAW.**—No; not at present.

**MEDICAL STUDENT.**—The time occupied is generally four years, but as a matter of fact over five years is usually required for a full and complete curriculum.

**HOSPITAL.**—See Mr. Burdett's paper in the *Nineteenth Century* for March. There is no doubt that the abuse of hospitals by patients who are quite able to pay for the attendance of a medical man has reached a very high and lamentable stage of development.

**GEORGE CARVELL.**—The common fluke (*Fasciola hepatica*) causes the disease known as "rot" in the sheep. The fluke has occasionally occurred in man.

**SURGEON.**—We do not know the firm. Make inquiry of the American agents.

**EVOLUTIONIST.**—We may direct attention at some future date to the influence of civilisation upon the human race. As regards stature, we believe that existing races are not smaller than primitive races. See Lyell's "Antiquity of Man."

## II.—SANITARY QUERIES AND ANSWERS.

**A HOUSEHOLDER.**—If you can prove that your house is insanitary, and that your occupancy of it is dangerous to health, your landlord can be compelled to put the premises into a sanitary condition, more especially as you say yours is not a repairing lease, and as the illnesses from which your household have suffered began with your tenancy of the house. Your case is one which illustrates very plainly the need for an inspection by a qualified person of the sanitary state of a house before entering upon a tenancy.

**E. G.**—The SANITARY PROTECTION ASSOCIATION is that to which you refer. The following extract from the proceedings may show you the character of the Association's interesting work in favour of health. The report stated the number of houses inspected for the first time during the year was 362. Of these, twenty-one, or 6 per cent., were found to have their drains entirely choked up, and no communication whatever with the sewer; all the foul matter sent down the sinks and soil-pipes simply soaking into the ground under the basement of the houses. In 117 houses, or 32 per cent., the soil-pipes were found to be leaky, allowing sewer-gas, and in many cases liquid sewage, to escape into the houses. In 137, or 37 per cent., the overflow-pipes from the cisterns were led direct into the drains or soil-pipes, allowing sewer-gas to pass up them, and contaminate the water in the cisterns, and in most cases to pass freely into the houses. In 263, or nearly three-fourths of the houses inspected, the waste-pipes from baths and sinks were found to be led direct into the drain or soil-pipes, thus allowing the possibility of sewer-gas passing up them, instead of being led outside the house, and made to discharge over trapped gullies in the open air.

## III.—MEDICAL QUERIES AND ANSWERS.

**GOUTY SUBJECT.**—Gout is a disease which has attracted a very large amount of attention from the earliest times. The name "gout" was first used in 1270, being derived from the French *goutte*, a drop, because it was imagined the disease was produced by a "humour," which fell drop by drop into the joints. Gout is really an inflammatory disease of a very specific and decided type. It is a constitutional malady, and its severity is increased by any hereditary taint. Most frequently it is the ball of the great toe which is affected; but other joints may suffer. Gout rarely attacks the female sex, and its symptoms are excruciating pains in the great toe, fever, disordered digestion, and depression. As time passes, the attacks may become more frequent, and deposits of *urate of soda* are found round the joints when the disease becomes chronic. Gout is to be distinguished from rheumatism. The most frequent cause of gout is high living. Cullen said "patience and flannel" were the best remedies for gout; but there is a decided difficulty about the first of these remedies. The treatment is directed to, firstly, the employment of aperients; cold and leeches applied to the foot do no good, and may do serious harm. The toe may be poulticed, and opium or belladonna should be sprinkled on the poultice. *Colchicum* is the favourite internal remedy, this being prescribed as a specific. When the fever is high, the diet should be light—milk, arrowroot, &c.; afterwards, beef-tea and strengthening diet. Plenty of lithia-water should be given. The mineral waters of Bath, Cheltenham, and Leamington are recommended for gout at home; abroad, Vichy, Carlsbad, and Wiesbaden are the favourite resorts. After the attack is over, port, sherry, ale, porter, and fruit should be avoided, and exercise should be taken at freely. A residence every year for three weeks at Vichy is said to preserve a gouty subject free from attack for the rest of the year.

**SENEC.**—The "fatty degeneration" of the eye you speak of means, really, an affection of the *cornea*.

**A. J. B.**—Itch, or scabies, is a disease caused by the burrowing in the skin of the *Sarcoptes scabiei*, a peculiar mite. The disease begins usually between the fingers, and pustules form. Treatment: Sulphur ointment, and destroying clothes or fumigating them with sulphur. The disease (that is the itch-mite) passes by contact from an affected to a healthy person.

**RINGWORM.**—This disease is caused by the growth of a microscopic fungus. Treatment: Destruction of the parasitic plants by poulticing, which removes the crusts, then applying oil of cade or sulphurous acid lotion every day after washing. Cleanliness. Cod-liver oil and tonics should also be given.

**ZENO.**—Consult a physician. We never recommend physicians or surgeons by name. A little inquiry will readily show you who are the specialists for chest-diseases in your town.

**MATER.**—(1) "Chemical Food" is a compound of iron, phosphate of lime, &c. It is a valuable tonic, but the child should be carefully watched, so as to avoid constipation, as the iron has a tendency in that direction. (2) The average period of the appearance of the milk, or first, teeth, is about seven months, and the first teeth to appear are the two middle front teeth. The last to appear are the hindmost molars (or premolars), at twenty-four months. The first of the second set of teeth to appear are the same front teeth, at seven years of age; then come the outer front teeth at eight years; and the first premolars at nine years. The eye-teeth are cut about the eleventh or twelfth year of life. Great variations are known to occur in the appearances of the various teeth.

**SUFFERER.**—Asthma is a spasm of the bronchial, or air, tubes of the lungs. It is not a disease of the lungs themselves. Bronchitis means inflammation of the living membrane of the bronchial tubes.

**STUDENT.**—"Hypertrophy" of an organ means its over-growth; "Atrophy" is its wasting away.

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The terms of Annual Subscription to the weekly numbers of *HEALTH* are as follows:—

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To any address in the United Kingdom .....	10	10
To the Continent, Australia, New Zealand, South Africa & Canada .....	13	0
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All subscriptions are payable in advance.

*HEALTH* will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# HEALTH

## A WEEKLY JOURNAL OF SANITARY SCIENCE.

LONDON: FRIDAY, APRIL 20, 1883.

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### Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

A LIVELY young man in Paris lately had a narrow escape from forming the subject of an interesting medical study. He was a waiter at a *café*, and in a frolic swallowed a nail, three inches long. After performing this feat, he set off for the hospital, where, in a few days, all anxiety was set at rest, the case terminating naturally, and without a serious symptom. "L'homme au clou," as the French have named the patient, may congratulate himself. It is not every person who swallows a three-inch nail, certainly; but a tin-tack has before now proved an awkward object when lodged in the digestive tube, and pins and needles are, of course, equally dangerous.

+ + +

SPEAKING of pins and needles, Dr. Pergami, of Crema, tells us, in an Italian medical journal of date Dec. 24 last, that from the body of a girl of eighteen, he removed by incisions twenty-four pins and needles, ten from the right breast and six from the left. As to ten of the "weapons," the patient confessed she had introduced them. She held out for fourteen as having been accidentally lodged; but, naturally, this statement will be taken *cum grano*. Dr. Pergami also mentions a case of 1829, in Milan, where 255 needles, all introduced by the patient, were extracted from a woman's body. The cases represent curious traits of human nature, and are worthy of being placed alongside the knife-swallowing sailor, who ultimately succumbed under the effects of his public-house displays.

+ + +

BLEEDING from the nose is certainly more troublesome in ordinary cases than alarming. A French physician gives us the interesting and useful piece of advice, that if we inject hot water into the nostrils, the bleeding instantly ceases, and this in cases where cold water is of no avail. The hint is worth remembrance by all.

+ + +

THE *Lancet*, in a very sensible note, directed attention recently to the different aspects which quackery assumes when practised among rich and poor respectively. Rich or well-to-do people can choose their doctors, and if they elect to seek unqualified practitioners, they choose their own

path. With the poor it is a case of "Hobson's choice." They cannot tell the qualified doctor from the brazen quack; and they are practically under the tender mercies of the latter, through their inability to discriminate between legal and illegal practitioners. This is not as things should be. We require the poor as well as the rich to be efficiently protected against that worst of all impositions, the ignorant quack.

+ + +

FROST-BITE is admittedly a grave and annoying injury. After the disease has run its course, nervous symptoms—tingling, prickling, &c.—often remain for years. To cure these after consequences, which are worst, and recur most frequently in cold weather, we are recommended to apply balsam of copaiba, spread thickly on a piece of linen or muslin, the affected parts being covered with the application, which is allowed to remain over the night. By day, some of the balsam is to be spread over the affected parts. It is said that after one or two applications the pains cease and the redness disappears; whilst a few additional applications seem to give to the parts a power of resistance to frost-bite. The above simple remedy should be kept in mind against the sorrows and pains of next winter.

+ + +

THERE is a tapeworm rejoicing in the elongated name of *Bothriocephalus latus*, and which inhabits the intestines of Russians, Poles, North Germans, and of other European nationalities, but is never found in Great Britain—unless, indeed, it has been imported. The common tapeworm we obtain, as most people know, from underdone and diseased pork. The source of the *Bothriocephalus* was for long a mystery. The pig plays the part of first "host" to the common tapeworm; but the first "landlord" of the Russian worm puzzled the naturalists. We now learn that the Russian obtains his tapeworm guest by eating a fish dietary. Dr. Braun has found the youthful worms in the pike and other fishes. Raw fish thus infested, given to dogs and cats, produced the full-grown worms in the digestive systems of these animals. In an ordinary pike, forty or fifty of these youthful tapeworms may be found. Moral: Cook fish, flesh, and fowl thoroughly, and thus defy invasion by the parasitic hosts.

+ + +

BARTHOLOMEW ROE died recently in St. Andrew's parish, Dublin. He succumbed to a virulent and infectious fever, leaving behind him a widow and eight children. For two days and two nights the deceased was duly "waked." Actual result: Death of the widow from the fever in a few days thereafter; some of the children having been also infected, and duly conveyed to hospital, suffering from fever. Unknown result: Probably a score of similar cases of fever directly infected, and a long series of secondary infections, incapable of being traced to their true origin. Strange that in this nineteenth century the so-called "duty" to the dead should be made the means of injury to the living. A firm stand against this "wake" system by the priesthood of the Roman Catholic Church would effect much good. What has Cardinal Manning, himself an ardent health-reformer, to say to this?

+ + +

MR. JOHN HALL, described as "a manufacturer of potted meats," was required lately to make his appearance before a Birmingham magistrate. Mr. Hall apparently laboured under the impression that donkey's flesh, obtained from a neighbouring slaughtering-yard, was a fit and proper material for the manufacture of the "potted meats" with



which he supplied various small shops in Birmingham. Some 70 lbs. of the asinine flesh were found in his possession. Mr. Hall said he "must do something for a living;" but the magistrate being clearly of opinion that to pot donkey's flesh was neither an honourable nor, as regards the public, a health-giving occupation, Mr. John Hall has languished in prison for a month. We agree heartily with the magistrate, that fines in such cases are useless as a means of protecting the public.

+ + +

At the same court, and on the same day, Joseph Mathews, butcher, of Birmingham, also received maintenance gratis and at State expense for one month. Mr. Mathews had been deluding his customers into buying horseflesh under the idea that they were paying for beef. Wondrous are the ways of some food-providers; but a smart sentence is the only sure means of securing us against these very gross and disgraceful frauds in food.

+ + +

THE Grocers' Company appears to be laying itself out for good works. To encourage sanitary research, we learn the company intends to found exhibitions or scholarships and discovery prizes for the maintenance and reward of those who engage in the promotion of sanitary science. We are not over-confident of the reality of the stimulus to research which "endowments" are supposed to foster and encourage. Witness Oxford, with its huge endowments and the paucity of results. As a matter of fact, most of the important discoveries which have revolutionised life and thought, have been made by private individuals, working for the love of research and truth. Darwin's work and Koch's discoveries—the latter having discovered the minute living specks (or bacilli) in the consumptive lung, and in other diseased conditions—are examples of the products and practice of unendowed research. But, on the other hand, endowments wisely ministered are unquestionably good things; and with Drs. Simon, Burdon Sanderson, and Buchanan, and Professor Tyndall as advisers, the new venture of the Grocers' Company may produce much sweetness and light in sanitary science. We cordially wish the movement all success.

+ + +

HERE is a hint for Corporations and Town Councils. Baron de Podewils, of Munich, has invented a new system for treating the solid sewage refuse of towns. By a four-fold evaporation, conducted in closed vessels—so that no odours are allowed to escape, whilst the cost of fuel is reduced to a minimum—a manure is produced and is found to be of quality which brings from £9 to £10 per ton. At Manchester, a factory of this description, which has been three years in operation, and which uses expensive coal, yields, nevertheless, 20 per cent. dividends. We should hear more about the "Podewils" system, if sanitation is on the advance.

+ + +

FREDERICK GLOVER, described as a quiet, inoffensive tradesman, committed suicide in the House of Detention, Clerkenwell, last month. He was committed for the theft of two pork-chops. His death was due to leaping over a staircase in a sudden fit of excitement. The medical press deservedly draws attention to such a case. It is probable that this poor man was subject to a form of epilepsy, and that both theft and suicide were committed under the influence of disease. Such cases of petty larceny, committed by quiet and respectable persons, demand investigation as much by the doctor as by the magistrate.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### HEALTH AND CIVILISATION.

THE question has been so often propounded, "Is civilisation favourable or unfavourable to health?" that it might be thought that an answer had long ere now been forthcoming. But the relations which exist between health and civilisation are by no means easy of determination. At first sight it would seem as if a high social and cultured state could only be beneficial to those who exist under its sway. No doubt also this statement is perfectly correct. That we have improved wonderfully on the health ways and works of our forefathers is a patent fact. Nineteenth century life has been, and is, a vast improvement on the eighteenth century existence. The only approach to the "plagues" which formerly devastated Europe we have lately seen, appeared in the shape of the waves of cholera that occasionally visited our shores. We enjoy to-day a comparative immunity from great and wholesale epidemics of disease, and the death of hundreds in a day or a week from any violent plague is happily unknown amongst us now. Improved dwellings, better food, the spread of education, and other causes, have "leavened the mass" so far; and in the sense in which civilisation is responsible for these benefits, it may be said to have increased our chances of living long. On the wider basis, that civilisation itself contains all the conditions which ought to make disease well-nigh an impossibility, it may fairly be argued we should return an affirmative answer to the question, "Is civilisation the friend and ally of health?"

The opposite view of matters has almost invariably placed "the noble savage" as the type of a perfect physical development. We have heard a great deal about the freedom from disease which the savage enjoys; although we certainly do know that when he does fall in the way of small-pox, measles, and scarlet fever, the savage suffers terribly, and appears utterly prostrated beneath the attacks from which the civilised man quickly recovers. This may result, of course, from the purely "natural" state of the savage constitution. But no health-reformer will, for a moment, admit either that the savage races are free from disease, or that they are to be taken as the only types and models of healthy men. If we grant that civilisation is an "artificial" state, and that we live under "artificial," and often "forced," conditions of life, there is yet one consideration which completely turns the argument in favour of civilisation as the typical state for the exercise of the sanitarians' efforts. Every living being possesses a power of accommodating itself to its surroundings. Naturalists tell us that there are two conditions to be regarded in dealing with the life of any animal or plant—from the lowest to the highest member of either series of living beings. These conditions are, firstly, the living being's own nature and constitution, and secondly, the influence of its surroundings. If we grow a plant in one soil, its leaves are small, and its whole frame is stunted. By transporting it to another soil, its leaves become large and fleshy, its seeds more numerous, and its offspring healthy. So with the animal. On one dietary, and in one atmosphere, it appears unhealthy; removed to a more suitable habitation, it flourishes and waxes strong. The child of the slums and gutters, badly fed, poorly clad, deprived of fresh air, and surrounded by every evil influence, physical and moral, either dies early, or grows into a stunted, delicate man, whose constitution is feeble,



and whose life is at the best a weariness and a long period of ill-health. Transported to a pure atmosphere, well-fed, and warmly clothed, the same child becomes a healthy man. In the one case, the human being struggles with bad surroundings in civilization, just as he may war with noxious surroundings and privations in savage life. In the other case, the surroundings being favourable, the human being exhibits healthy growth and a healthy life. Civilisation and savage life appeal to the health-reformer in precisely the same way. What is to be borne in mind is the plain fact that civilisation, and not savagery, properly used and well-directed, should result in the highest and best culture of health. Whatever we may once have been—savage, we once undoubtedly were, if science is to be believed at all—we know that civilisation is our natural state, because we have become adapted to that state, as the animal or plant becomes suited to its surroundings. Were it otherwise, extinction of the race would follow.

The argument regarding civilisation and health, then, is easily disposed of on the ground that our present social state and our physical constitution have become interwoven in the wondrous warp and woof of living nature. Beyond this plain statement of facts, however, lies a whole series of considerations which show us that our civilisation, like every other condition of life, contains elements which may be as prejudicial to health as other elements are favourable. There exists no need for a full review of the dangers to health which civilisation entails. It is clear, for example, that the overcrowding of cities, towns, and villages, constitutes in itself a most serious danger to health. The conditions of life which crowd the poor together into the courts and slums of our great cities, are exactly those which endanger health. Again, many of our very "fashions" in dress, and in eating and drinking are prejudicial to healthy living. The cares and worries which the never-ending "struggle for existence," the race for wealth, the fight for bread, entail upon the masses, are in themselves injurious to our well-being, physical and mental. Our houses, carelessly built and badly drained, become pitfalls of disease. These, and a thousand like dangers, threaten our modern life. Even man's gregarious nature, as we have seen, tends, if not to induce disease, at least to present a soil in which disease may develop. We have abolished ague by the drainage of waste lands; but we have yet to fortify ourselves against evils of a graver kind induced by our modern states of life. What we have to rejoice in the possession of are civilisation, and the possibilities it presents of acquiring a high culture of health. That which we have to fight against is not civilization itself, but the evils and abuses of life and living, which, through ignorance of health-laws, are allowed, like thistles among the corn, to spring up and to interfere with the evident good that civilization brings in its train.

## THE "GERM THEORY" OF DISEASE.

### FIRST PAPER.

THE "Germ Theory" has become a household word amongst us. Persons unfamiliar with science in any of its aspects, know at least, something of this theory, and of the objects it seeks to attain and to explain through its tenets. The vast importance to all—gentle and simple alike—of a knowledge of how diseases are produced and generated, whence epidemics come, how they grow and spread, and how they may be prevented, is, of course, self-evident. There is at the same time a crying need that the people should have explained to them the nature of the

theory which lies at the root of the modern treatment of infectious diseases, and which forms the foundation of our efforts to arrest and to stamp out these disorders. It may be premised at the outset that the scientific and medical world is by no means agreed as to the truth of the "germ theory." In common fairness to a few distinguished physicians and surgeons, this latter fact must be mentioned. They prefer to assume that infectious diseases are produced by chemical and allied conditions rather than by the growth of *living particles* or "germs." The question is, therefore, for certain scientists, still an open one; but it must also be added that the majority of scientific men—physicians, surgeons, naturalists, and physicists—have accepted the "germ theory" as not only a thoroughly consistent one, but as that which alone explains all the circumstances connected with the propagation and special characters of infectious disorders.

It is asserting a truism to say that an historical review of the growth of an opinion or theory is by far the most lucid fashion of arriving at a true estimate of its worth. Hence we propose in the present instance to trace the rise of the "germ theory," and to show how this idea of the *living origin* of disease has come to find a prominent place in the annals of our time.

Dr. T. MacLagan, in his "Germ Theory of Disease," says, "This theory is, that many diseases are due to the presence and propagation in the system of minute organisms (*i.e.*, living beings) having no part or share in its normal economy. This it is, and no more. It is essential to be clear on this point, for the opponents of the germ theory, and to some extent its advocates also, have introduced into the discussion of that theory the question of the source and mode of origin of these organisms—a complication which has tended to hamper men's minds, and to divert attention from the real subject of discussion, THE COMPETENCE OF GERMS TO PRODUCE THE PHENOMENA OF DISEASE." The latter words, emphasized by Dr. MacLagan, contain the gist of the theory, which may fairly be said to have originated some two hundred odd years ago, in the city of Florence. In 1668, one Francesco Redi, physician to the Grand Dukes Ferdinand II. and Cosmo III., of Tuscany, found himself at variance with the scientific thought of his day, when he asserted that maggots in meat were produced, not by the decay of the meat (*i.e.*, without parents, and from dead matter), but from the eggs laid in the meat by the flesh flies. It must be remembered that the belief that living beings could arise from dead matter, without the existence or need of parents, was a stable belief of the ancients. Moulds in decaying meat and fruits, eels in mud, and even frogs in the ponds, were believed to be bred somehow, from the lifeless matter around. "The corruption of one thing, is the birth of another," so said the ancients; and Lucretius, in a well-known passage, tells us that "many living beings, even now, spring out of the earth, developed in rain-water, and in the heated vapours raised by the sun." Therefore, Francesco Redi, like many another reformer, found that he had to do battle with a long-established belief, whose overthrow was by no means to be lightly accomplished.

In the battle of one theory against another, facts are the only weapons which do yeoman service in the hands of the contending sides. It was not wonderful, therefore, that Redi should proceed to marshal his facts against the "spontaneous generation" idea—for by this name may be indicated the belief in the development of living beings from dead matter. He took some meat, placed it in a jar which he covered with paper, and showed that whilst the meat-corruption went on as before, no maggots were pro-



duced. Then, in another case, covering his jar with fine gauze, he showed that the flesh-flies came to lay their eggs in the meat, attracted by the odours of decay. Prevented in their attempt by the gauze, they laid their eggs thereon. The maggots in due time hatched on the gauze, whilst the decay of the meat proceeded below; and the question of the origin of the maggots was thus simply and for ever solved. The theory of the "spontaneous generation," in dead meat of living maggots at least, was thus finally abolished.

Now, on the simple basis of Redi's experiment, all future investigations moulded their plans and procedure. After Redi's time the microscope began to assume a place and power in scientific researches. Men began to discover a world in the water-drop, and an universe of life in the compass of a stagnant pool. Hence, whilst no one dreamt, a century after Redi, of alleging that insects and like animals were generated by the decay of animal matter, the question of the origin of animalcules and low life generally, was making its way to the front for decision on experimental grounds. In the middle of the eighteenth century, two observers, Buffon and Needham, began to investigate the manner of origin of animalcules. An infusion of hay, allowed to stand for a few days exposed to the air, swarms with microscopic animals and plants, of the larger among which it will take some three or four thousand, placed in a line, to make up the length of an inch. How come these living beings to swarm in the infusion of meat, hay, and dead leaves? Needham and Buffon boiled an infusion, thereby seeking to destroy any life it might originally have contained. Then corking up the infusion, they allowed it to cool. On examination, it was found to swarm with life. Having presumedly killed any life inherent in the infusion by the boiling, and having secondly, prevented any access of life from without by securely corking the vessel, Needham and Buffon, as the result of many experiments, came to the conclusion that "spontaneous generation" was, after all, a fact. They believed the animalcules to have been generated from the decay of the infusion, and therefore without the existence of parent animalcules. Redi's victory seemed thus to be reversed. The verdict of 1668 appeared to be overthrown by the observations of 1748. "Spontaneous generation" seemed to claim the field to itself. But a new investigator was already in the field. Whilst Needham and Buffon were working at their experiments, another investigator was paving the way for a criticism in turn of their results. In this way, the Abbé Lazzaro Spallanzani appeared upon the scene.

*(To be continued.)*

"IN the treatment of disease, the regulation of diet always demands particular attention; it may be made a powerful agent in the restoration of health, while negligence or errors are often exceedingly disastrous. The writer has seen cases lost, which, humanly speaking, might have been saved had the nutrition of the patient been properly regarded; in other words, if he had had food in the proportion that his malady had medicine."—DR. KIRBY.

FOREIGN BODIES IN THE EAR.—Mr. Lyddon lately reported to a meeting of the Norwich Medico-Chirurgical Society, a case of removal of foreign bodies, after being twenty years present, from the external auditory meatus. From one ear a pearl button, and from the other an iron dress-hook, were removed by eye-surgeons' forceps. No structural change had taken place in either ear, and the hearing was perfect.

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### II.—THE SKIN IN RELATION TO HEALTH.

By DR. ANDREW WILSON, F.R.S.E., &c.

FEW people, save perhaps those who have studied physiology, entertain any adequate notion of the important part played by the skin in the maintenance of health. Besides serving as a covering to the body, and as a protection to the soft parts beneath, the skin has important functions as a regulator of the bodily heat, as an apparatus for getting rid of waste matters, and as a means of communication with the outer world. Let us briefly look at those duties of the skin which are concerned with heat and waste, by way of fitting ourselves for understanding how the maintenance of a healthy body largely depends upon the perfect working of the skin. Firstly, then, the skin regulates the bodily heat. Every one knows that the under skin—situated below the outer skin or "scarf skin"—is well supplied with blood vessels. In shaving, a man draws a practical distinction between the two layers of the skin. So long as he confines himself to the upper or scarf skin he neither draws blood nor feels pain, for the outer layer has neither blood vessels nor nerves. It is one of the few parts of the body which have no nerves or blood-vessels; but if the person who shaves, chances to infringe upon the deeper skin-layer, then pain is felt and blood is drawn. We can estimate how numerous must be the skin's blood-vessels, and how dense must be the network they form, when we reflect that we cannot prick any part of the skin-surface with the point of the finest needle without drawing blood. At all times there is passing through the skin a large quantity of blood. But we must not lose sight of the fact that the blood is a warm fluid, and that, therefore, the circulation through the skin, being one near the outer surface of the body, so to speak, brings the blood within reach of the outer temperature. There is thus a constant loss of heat from the skin. It is calculated that about 80 or 90 per cent. of the total heat-loss of the body, takes place from the skin. Now, under certain conditions, the quantity of blood in the skin is liable to variation. Roughly speaking, if, through any cause, heat is withdrawn from the body, then the quantity of blood in the skin becomes greater than before. If, on the contrary, less heat is given off through any circumstance of life, that circumstance will induce a greater flow of blood away from the skin, and towards the deeper parts of the body. The mechanism which rules the skin and its duties in relation to the quantity of blood which passes through its blood-vessels, need not be here detailed. Suffice it to say that, as a warm atmosphere acts on the nerves of the skin and causes relaxation and distension of the blood-vessels, with an increased flow of blood to the surface of the body, so a chilled skin, causes the blood-vessels to contract, and to diminish in this way the blood-supply. When a lady fans herself in a heated ball-room, she is producing the latter effect by means of the cold air-draughts she sets in action, and counteracts the effects of the former condition produced by the warm atmosphere of the apartment. The skin is, in fact, a "self-regulating" heating apparatus, controlled by nervous action, and serving, as we have seen, to give off a greater or less amount of heat as circumstances require.



The skin, however, is also a means for getting rid of waste matters. It is, in scientific language, an organ of *excretion*. Deep down in the skin-substance are numerous little *sweat-glands*. Each sweat-gland is a coiled up tube, the end of which ascends to the surface of the skin and opens in one of the well-known *pores*. These glands are imbedded in the layer of fat which lies below the true or underskin, and are surrounded by a network of blood vessels. Sweat-glands are most numerous in the palms of the hands and the soles of the feet. One calculation gives between 3,000 and 4,000 to each square inch in the palm of the hand, those in the feet being equally numerous. The sweat-glands are least numerous in the back and neck. There they are said to number about 400 to the square inch. The total number of sweat-glands in the body is set down at about 2½ millions. If the skin glands were uncoiled and their total length measured, it would be found that there exist about twenty-eight miles of sweat-tubing in the human body. There are other glands (which may be called *oil-glands*), in the skin, and these appear to throw out an oily matter which lubricates the skin, and which also nourishes the roots of the hairs.

That from our bodies the skin is constantly pouring out a large quantity of waste matter, is a fact which lies at the foundation of all health-knowledge concerning the skin and its structure. "Sweat" or "perspiration" is merely part of the bodily waste that goes on incessantly. The skin, in fact, is one of a trio of organs devoted to getting rid of this waste. Its fellow-workers are the *lungs* and *kidneys*. All three organs perform much the same kind of work, and one organ can do a little of the other's work when the latter is temporarily weak from illness and disease. That is why, when the lungs are affected in any way, for example, doctors cause the skin and kidneys to act thoroughly through giving medicines that cause increased work of both organs. Sweat is a very complicated fluid. It consists chiefly of *water*, various complex *acids*, *minerals* (including *common salt*), *carbonic acid gas* (the same gas that makes our breath poisonous), and matters derived from the skin itself. We are always "perspiring," although many persons fail to realise that fact. The skin is always doing the work of a drainage system. The word "perspiring" has come to signify the obvious results of work and exertion, but these results represent merely the *increased* work of the skin. The hand and skin generally are naturally moist. The difference between the dry, unhealthy hand of a fever-patient, and the moist hand of health, is well known to all. Between 1½ and 2 lb. (or pints) of *water* are given off from the skin daily, whilst about 400 grains weight of carbonic acid gas and 300 grains of solids (minerals, &c.) are also given off during each 24 hours of life.

The *health-aspects* in which the skin and its work may be regarded, are many and varied. We shall take up these aspects in due order. The first piece of advice which the knowledge of skin-functions presses home, is the necessity for strict personal cleanliness of the whole bodily surface. Naturally, we all recognise the force and morality of this piece of advice; but it is not followed in detail as it should be. If "dirt is only matter in the wrong place," it can nowhere be so much out of place as on the skin. But by cleansing the skin, we do not mean that this operation is simply directed to the removal of visible particles of matter. It must be borne in mind that the skin is continually receiving from the blood the waste matter already mentioned. These matters are liable to remain on the skin surface. When not cleansed off that surface, they remain to form a layer of oily matter, within which the dust particles of the

outer world become engrained, and plug up the pores, or openings, of the sweat glands; thus preventing the healthy and natural action of these organs.

What interruption to the work of the skin means, can readily be imagined. If proof were wanting regarding the effect of a dirty, that is, an uncleansed skin—which, by-the-way, may apparently be a clean-looking skin—on health, we would find such proof in known facts relating to the artificial blocking up of the skin-pores. The body of a little child was varnished and covered with gold-leaf, by way of representing the "Golden Age," in the triumphal procession which marked the accession of Leo X. to the Papal Chair. The child took part in the procession, but died in six hours from sheer skin-suffocation—or, in other words, from the obstruction to the skin's work, represented by the coating of varnish and gold-leaf. The waste matters we give off perpetually, kill us by a sure form of poisoning if they are left in the blood. Persons who do not attend to the cleanliness and to the scrupulous purity of the skin, are, therefore, slowly but surely qualifying for ill-health through the interruption produced in the ordinary work of the sweat-glands. Primarily, then, we think that far greater attention should be paid to the skin and its welfare than are commonly bestowed upon this surface. Baths and bathing are not favoured, as they should be, by rich and poor alike. The masses do not know the necessity for *frequent warm baths* as the only true cleansers of the skin; and they have yet to learn the great truth that, in addition to *personal* ill-health, the owner of a neglected skin becomes a source of danger and annoyance to others.

(To be continued.)

**RICKETS AND DIGESTIVE DISORDERS.**—The relationship of rickets to disturbance of digestion is shown to be very close. There is, in short, no rickets without such disturbance, and many cases are to be traced entirely to it. The forms that the dyspepsia takes are very varied; sometimes acute vomiting and intestinal catarrh, with a lingering diarrhoea; sometimes constipation, alternating with diarrhoea, or even becoming intractable; but in all cases there is extreme wasting. In reference to the very interesting question of liver and spleen enlargement, the conclusions as regards the liver are entirely negative; whilst, as regards the spleen, physicians conclude that, though usually enlarged, it is not invariably affected in rickets.

**TIGHT-LACING AND BEAUTY.**—What I propose to show is, how the practical may be united with the beautiful, or, rather, that one is the natural outcome of the other. There is no doubt that tight-lacing is, as Mr. Watts says, the root of many evils. You see its ruinous effect in the sunken eye, the muddy complexion, the puffed features and rounded back; you see it in every movement, even to the forced smile of the victim; all life and buoyancy seem to vanish from the doomed form; but I think it does not follow that every woman who has what is called a small waist is laced tight. "The stiff unyielding machine crushing the ribs and destroying the fibre of the muscle," to which Mr. Watts alludes, is not, fortunately, what sensible women wear; and the well-made, dainty production of a good French "artist," manufactured of lightest material and delicate whalebone, is no greater impediment to free breathing or movement, than the elastic jersey recommended by him. Supposing the Venus of Milo or that of Medici were to become flesh and blood, these slight stays would no doubt turn them into women with small waists, upon whom one of Mr. Worth's dresses would not look out of place.—LADY PAGET.



## The Body and its Structure

"The proper study of mankind is man."—Pope.

"What a piece of work is a man!"—Shakespeare.

### NO. II.—DAILY LIFE AND ITS WORK.

By A. J. MANSON.

SCIENCE tells us that whilst incessant motion characterises the great world of atoms that surround us—of which, indeed, we form part—living matter possesses a power of inherent movement, and exhibits continual, never-ending change. Animals and plants, in other words, exhibit in the course of their lives movements of spontaneous nature, and which do not depend upon outer forces for their origin. We readily see that most animals and not a few plants possess powers of independent movement, and in the possession of such powers they certainly differ from the lifeless objects around. Even the animalcule in the pool crawls about within the minute world it inhabits. A young seaweed swims merrily through the sea, just as a sensitive plant droops its leaves when touched, or as a Venus' Fly-trap closes its leaves with a snap on the insect that has touched the sensitive leaf-hairs. That most animals can move about is the plainest of facts; and even animals which, like the corals or sponges, are rooted and fixed are seen to be full of life and movement when we either watch them closely, or peer into their private life by aid of the microscope. Now, the movement and activity which characterise life and life's children, are not exerted without a large amount of wear and tear. We cannot conceive of any living being, animalcule or man, which can go on working and living without exhibiting waste, any more than we can think of a machine which can perform work without showing greater or less wear of its parts. The friction of a steam-engine represents one source of wear and tear; and that there is considerable friction in a human frame cannot be doubted. We find, as a matter of fact, that nature takes ample and ingenious means to limit such friction in our bodies. She provides that our joints shall be oiled; that our heart shall beat with as little friction as possible; and that our lungs will expand and contract without undue wear and tear. There are more subtle, but not less certain, forms of waste taking place in our bodies at every moment of our life. We are continually "breaking down" into so much waste matter as the result of the ordinary work of our lives. From lungs and skin alone there are given off large quantities of water, carbonic acid gas, heat, ammonia, and other matters; and these represent the waste that is inseparable from life. Life in the eyes of the physiologist means work and action. We keep up our bodies from hour to hour through work, as real in its nature, as is the daily labour these bodies perform. The heart works, lungs work, brain works, skin labours, and muscles toil—not to speak of the action of the stomach, liver, and other organs. So that our life, measured even by an hour's span, represents an amount of work which is astonishing, if we calculate out its details. Work and waste represent one side of life, and growth and repair balance the account on the other side.

It is an easy matter to prove the incessant nature of our bodily work. If we select the state of sleep and repose for the illustration of our position, we may see clearly how even the resting hours of existence are marked by incessant activity. The sleeping man rests in one way, whilst his frame is working busily enough in another. His heart is ever busy sending the blood through his body. Each cell

and tissue of the body is continually drinking in the nourishment the blood conveys and represents. The rise and fall of the chest remind us that it is only death's "twin brother" sleep, and not the "dread enemy" itself, we are watching; and the play of the lungs is never-ending whilst life lasts. Science has calculated for us the amount of work which such organs as the heart and lungs perform—to say nothing of the subtle or less easily ascertained amounts done by the brain, liver, stomach, and other organs. In calculations of this nature, the phrase *unit of work* is employed to indicate, in exact and convenient fashion, the amount of work which any machine performs. The "unit of work" is simply that amount of force, or energy, which would be required to raise a unit of *weight* (say 1 lb), through a given space; or unit of *height* (say 1 ft.). The "unit of work" is, therefore, said to be a *foot lb.*; that is the amount of energy required to raise 1 lb. 1 ft. high.

Now, it has been shown that the heart, at each stroke, exerts a force in propelling blood, equal to about 3 foot lb. This amount of work is, therefore, equal to that required to raise a weight of 3 lb. one foot high. Multiplying the heart's work so as to discover the total amount it performs in a day, we arrive at the interesting calculation that in twenty-four hours a man's heart performs work equal to 124-foot tons. That is to say, if all the force expended by the heart in twenty-hours could be directed to and expended in one huge lift, such power would raise 124 tons one foot high. If we calculate the slower lungs and chest-work for twenty-four hours, we discover that 21-foot tons is the amount indicated. The work of the chest for that period would, if applied in bulk, raise 21 tons one foot high. The Rev. Dr. Haughton has put this matter so clearly that we may quote his interesting words:—"Let us suppose that the heart expends its entire force in lifting its own weight vertically, then the height through which it could lift itself in *one hour* is found to be 20,250 ft. (Helmholtz). It has been frequently stated that an active climber can ascend 9,000 ft. in nine hours, which is only at the rate of 1,000 ft. per hour, or one-twentieth part of the energy of the heart."

Enough has now been said to show that life is one incessant round of work, which is more or less completely represented by "movements" of one kind or another. Wear and tear—to return to our original contention—are thus inseparable from life, viewed either as a resting or as an active period. There is much in such a view of bodily action that serves to render clear a large part of the science of life and living. For we can see in this way the necessity for taking food, which, of course, repairs the wear and tear we suffer; and we may also understand how rest acts on the renewal of our energy and strength. A final feature of our daily life may be referred to by way of close. In addition to the chemical actions which proceed within our frames, we must bear in mind that the actual bodily substance itself wears and tears in the act of life. Continually, the worn-out cells and particles of our bodies are being given off, and replaced by new formations produced from the materials contained in the blood, which, in its turn, merely represents the food we eat. In the process of growth, the replacement of the old particles by the new keeps in front of the waste, and thus gives us fresh bodily material. In old age, the reverse case is seen. There the old particles are swept away, and the new particles are replaced with difficulty, often imperfectly, and waste is in excess of repair. It is, in truth, strange that with this incessant change of the elements of our form, we should retain our accustomed features and the lineaments whereby we are known to our fellow-men.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

No. II.—WHEN FEVER INVADES THE HOUSE (*continued*).

WE saw in our last paper that when fever invades the home, we must separate and "isolate" our patient as completely and effectively as possible. This plain advice is the groundwork of all fever-treatment; it forms, likewise, the sheet-anchor of safety for those who are well. Practically, we see this treatment carried out in modern hospitals. Why is a fever-hospital placed as far apart, not only from dwelling-houses, but from other hospitals as possible? The answer is, to avoid infection; to limit, as far as possible, the distribution of the disease; to prevent the spread of the infecting "germs"; and to confine the malady to one point or centre. The idea of "stamping out" fevers and other infectious diseases naturally takes origin from the principle of "isolation." Suppose it possible—as it would be both possible and easy were the people fully alive to the beneficent nature of the practice—that every case of fever or other infectious disease could be at once removed to a hospital, or treated elsewhere on the isolated or separated system. It is safe to say that, in such a case, no fever would be propagated as fevers are propagated under our eyes to-day, through contact of healthy bodies with the germs that swarm from each fever-patient. No doubt, fevers spring up in single and detached cases in which any proof of infection is difficult or impossible of discovery. A lonely shepherd's cottage in the hills, removed miles from any other human dwellings, may, and does, become the home of fever. Conditions—such as bad water and bad drainage, filth accumulation—being favourable, the fever appears. Has it sprung up spontaneously and without parent germs? or have the germs been wafted to the lonely hillside from some distant patient? These questions are very difficult to answer. The majority of physicians and naturalists, well knowing the subtle nature of infection and the vital properties of "germs," and knowing, besides, that "spontaneous generation" is nowhere known to occur in nature, would, we apprehend, choose to believe in the transport of fever germs by the air, rather than to indulge in any theory which held that fever can be born of nothing, and without pre-existent germs. Where the conditions of filth and putridity, foul air, and bad water reign—as they too often do even amid the pure surroundings of the country—there the "germs" of fever find a soil in which to breed plague and pestilence.

To show practically and clearly what the want of "separation" and "isolation" mean to a community, and to demonstrate how ignorance and neglect of this fundamental rule of fever-treatment entails misery and death upon us, let us quote the words of Dr. Russell, the Medical Officer of Health of Glasgow, in reference to a recent epidemic of *typhus fever*, which breeds, it should be noted, in the foul air of the slums and ill-ventilated dwellings of the poor, and which is highly infectious, spreading in all directions when proper precautions are not taken to separate the patient. "The circumstances of this epidemic," says Dr. Russell, "illustrate well the sort of facts which pass from week to week under the official eye, and which gradually produce

opinions in the official mind—opinions which, when exposed without the experience which begot them, or to persons ignorant of that experience, may appear unreasonable. On December 23rd, four cases of typhus fever were removed from an unticketed dirty house of two apartments on the south side. The householder had just recovered from an attack of what was thought to be enteric (or typhoid) fever by the medical man who attended him. An endeavour was made to persuade him and the other members of the family—four in all—to go to the reception house, but without success. The usual processes of washing and disinfection were carried out, but of course, the personal clothing in use, and the persons of those remaining inmates were untouched. On January 11th, a child, and on 14th another, were removed to hospital, and disinfection again carried out. A baby had been given to a neighbour woman to mind. On January 22nd, her two grown-up daughters were removed to hospital. The father quarrelled with this neighbour about payment, and the baby was transferred to another neighbour, from whose house it was removed, on Jan. 30, with typhus. On Feb. 1, six cases of typhus were removed from a house of three apartments, a few closes off in the same street. This house was presided over by one of those women who wash as seldom as possible, throwing cast-off articles into presses and below beds. No fewer than 707 such articles were turned out under the inspector's eye, and sent to Belvidere for washing, besides 93 mere filthy rags, which were burned. A brother-in-law in the northern district, whose house is also dirty and untidy, is now ill with typhus; and his daughter has just recovered. They are friends of the original family, and the slightest whiff of typhus poison would take root in such a soil. There are thus eighteen cases of typhus, infecting five different houses, derived from one unreported case, of which at least twelve would not have arisen had the reception-house been accepted when offered."

Comment upon these words would be quite superfluous. They illustrate far more effectually, in their unvarnished simplicity, the need for separation, and for a knowledge of "what to do" when fever comes, than many aphorisms and a multitude of health counsels.

In due time we shall discuss in the pages of *HEALTH* the question of compulsory removal, and of the means which, in the interests of the public health, appear to be required for securing information respecting the presence of fevers, with the view of saving life by preventing their spread. Meanwhile, let us now inquire what is to be done in and by the household when the fever patient has been removed to his apartment. *That apartment is, in fact, to be regarded as a hospital of one bed*, and we are to secure by every possible means *that no infection passes from that department either to the other parts of the house or to the open air*. To secure these two great ends we must attend to the following things:—(1) We must draw a boundary line, by means of *disinfectants*, between the patient's room and the rest of the house. (2) We must *disinfect* the fever-chamber itself. (3) We must see that all the articles, clothing, utensils, plates, &c., used by the patient are *disinfected* before they are carried into other parts of the house. (4) We must, as far as possible, *prohibit communication* between the patient and his nurses, and other healthy persons. (5) We must *arrange and adapt the sick room* for the patient, and in relation to his disease. (6) We must *disinfect and purify* clothes, bed, and bedding, *the room itself*, and the *entire house* as well, after the case has terminated.

It is, of course, presumed that a medical man has been sent for, and is in attendance on the patient. Indeed, one



of the first rules to be observed where the presence of fever is even suspected, is at once to obtain a medical opinion. But before that opinion is obtained, we should separate the expectant "patient" from his neighbours. No words of condemnation are sufficiently strong wherewith to denounce the practice of allowing children intentionally to contract fever from other children, by way of "catching an easy illness," as the phrase runs. Health is too rare a condition to be wilfully destroyed, and such practices only encourage the prevalent and grossly erroneous idea that these diseases *must* be taken at one time or another. The reverse is true. For we have it in our power largely to stamp out these epidemics; and the early separation of the patient, and prompt attendance of the doctor, are the first steps in the wise treatment of the patient, and in the protection of those that are well.

Different fevers present, of course, widely varying features, treatment, and dangers. These we shall review in due time. Meanwhile, we must first note how *infection* may be conveyed, and how the common fevers, &c., are propagated and spread.

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IRRITABILITY IN CHILDREN, AND ITS EFFECTS. — "There is, unhappily, no room to doubt that children — especially precocious children such as the social system of France produces — resort to suicide in a startling proportion of instances without being insane in any scientific or practical sense. Probably no other community sets the same value on life which we are accustomed to attach to it. It is the possession we most prize, and that with which we are least likely to part as an act of free-will. Except under extreme pressure, no man or woman in this population voluntarily dies unless life is utterly unbearable. It is otherwise with people accustomed to see life thrown away under very slight provocation, and who generally regard it as something which has a market value not above price. With such habits of thought and expression as prevail in society on the Continent, children of even tender years are likely to fall into heroic states of mind, and perpetrate acts which end in their deaths, without actually appreciating what they do. These young persons are not mad or deranged, or even particularly emotional; they are simply the victims of bad example and vicious influences. There is practically no family life in France, and there never can be so long as the individual, instead of the family, is regarded as the unit of the nation. We are drifting into the same economic fallacy in England, and when the idea is popularised, so that the orderly constitution of society is destroyed, as it is on the other side of the silver streak, we too shall be discredited by the prevalence of suicides among the young. The state of matters in this respect which exists in France is a disgrace to that nationality. The question is not one of medical science, but of political economy."

TURTLE CONSUMPTION IN AMERICA. — New York receives every year about 200,000 lb. of turtle, while Philadelphia and Baltimore take about 50,000 lb. each. Boston, the literary capital of the States, is satisfied with 2,000 lb. only. Turtles are more abundant in summer than in winter; and when the supply is greater than the demand in New York, the creatures are kept alive in ponds, where they are fed with lettuce, celery, and the rind of water melons. The largest specimen ever seen in New York weighed 560 lb. In Philadelphia there is a considerable demand for small turtle for families, the price ranging from 20c. in winter to 10c. in summer.

## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### HOW HOMES ARE MADE UNHEALTHY.

BY A MEDICAL OFFICER OF HEALTH.

THE reports of medical officers of health form an instructive commentary upon the causes which make homes unhealthy, and which breed disease and spread misery and desolation abroad. We propose, in this and in other articles, to devote attention to the opinions of health officials culled from the reports furnished by them to the medical press. No more direct proof of the dangers that may threaten the home can be adduced than such experiences; and these reports also show, not merely the grave evils of unsanitary houses, but also the all-important fact that these evils are, as a rule, preventible, and are, as often as not, of our own making.

We shall begin by extracting a few details of interest regarding the sanitary state of Parisian houses. A French Commission is at present in England, charged with the duty of reporting upon the sanitary appliances in use in English towns and cities. Paris has recently passed through the severe ordeal of an epidemic of typhoid fever—the disease which, *par excellence*, attacks the inhabitants of unsanitary houses. Why Paris represents a modern Lutetia, as of old the gay city was named, may be gleaned from the following extracts:—

"To Englishmen, however," says the report, "it will seem that the greatest of all evils is the absolutely barbaric condition of the house drainage. In this respect there is a total absence of sanitary knowledge. Though we have visited hundreds of houses in Paris, we have not found one single water-closet so constructed as to render the egress of sewer gas impossible. The necessity of a water-trap is not recognised. Even in the rare instances where it is applied, it is not accompanied by any system of ventilation, though it has so often been proved that, where there is no ventilation to ease the pressure of sewer-gas, the water seal can be easily forced. The best French closets contain in the pan only an inch deep of water, and below the pan there is no trap. A huge pipe, which, on account of its size, cannot be kept clean by the very small amount of water allowed, communicates direct to the cesspool, and brings back from it all the foul effluvia. In other cases, instead of the cesspool, there is the *système diviseur*. A small iron cylinder is supposed to retain the solids, and allows the liquids to escape to the sewer. Thus the sewers are contaminated with a very fair proportion of *fæca*. matter in solution. On the other hand, the rain-water pipes, and the pipes that carry away kitchen waste, are now made to communicate direct with the sewer. Formerly they ran to the gutter, and thence down the street to the sewer mouth; so that the direct connection between the inside of the house and the sewer was broken. Now this is no longer the case, and the result is that each house is infested not merely with the emanations from the cesspool, introduced through the closet, but with gases from the sewers brought up by the rain and waste-water pipes. Such a thing as a trap, even the simple S-trap, in the leaden bath and sink-pipes is unknown. The utterly useless bell-trap alone is employed on the mouth of the pipe to prevent solids going down. We have tested several of these pipes, and on many occasions found a strong updraught." This condition of matters calls for no comment beyond the terrible moral which is conveyed in the plain statements of the reporters.



The report then continues as follows:—"In every house we have visited where cases of typhoid had occurred, the condition of the drainage was in itself quite sufficient to account for the presence of the disease; but some houses were especially dangerous, and one or two of these we ought perhaps to describe. In the Rue Galleon, on the confines of the Batignolles quarter, we found a widow whose two adult children had just recovered from typhoid. The closet was situated immediately opposite the bedroom door of the first victim. It was absolutely dark, even in the day. There was no window, no water, no lid to the seat, and not only no trap, but not even a valve to close the pan. We dropped a pebble straight into the cesspool below. The closet had never been disinfected, nor were the dejections of the patients mixed with any antiseptic before they were thrown into this cesspool. Within a yard of this focus of infection we found the kitchen, a dark, unventilated place. The whole of this small apartment was of necessity permeated with the gases from the cesspool. Yet for this state of affairs neither the law nor custom afforded any remedy. In the Rue de Clichy, not far from this place, we discovered a house where the cesspool was dug under the ante-chamber. On inquiry, we ascertained that this cesspool had never been emptied, for the simple reason that it was dug in permeable soil and uncemented. The matter all escaped into the surrounding ground."

The picture thus presented to our view is an excessively dark one, and the following words depict even a lower and more mournful phase still:—"Among the most notorious slums should be mentioned the Cité des Kroumirs, the Cité Doré, and the Cité Jeanne d'Arc, where the latrines infect the surrounding atmosphere and are utterly devoid of any sanitary apparatus. Here cases of fever have been nursed in rooms inhabited by six and seven persons, and, for want of mortuaries, the bodies kept in these crowded hovels till the hour of burial. That the fever should manifest itself in such rookeries is not surprising. What is more striking is, that in the best quarters of Paris, in houses where the most exorbitant rents are paid, there is not sufficient knowledge to secure adequate drainage. Hence many visitors, especially English and American families, have fallen victims to the reigning epidemic."

The enterprise which secures for the English medical press a report of such extensive character cannot be too highly commended. The details thus elicited, teach us, plainly and decisively, that, when a community neglects the common precautions which sanitary science has taught us are absolutely necessary to prevent disease, the neglect is visited with terrible intensity; and a long death-roll bears witness to the manner in which outraged nature revenges herself upon mankind.

Our next extract is equally instructive in its character. It presents us with the annual health-report of Okehamp-ton Rural District, given by Mr. Ash. Here the lessons of disease-infection and of an impure water-supply are clearly traced:—

"In the last quarter," says the report, "diphtheria appeared at Bratton Clovelly, and the outbreak was then made the subject of a special report. Besides sore-throats, which were found to be extremely prevalent, there were at least twenty pronounced cases of diphtheria, of which four were fatal. *The communicability of the disease from person to person was clearly traced in this epidemic.* The schools were an important factor in the spread of the disease, and their closure was, therefore, recommended. Various other precautions were adopted; but cases of the disorder have occurred from time to time, even so recently as February of the current year. From typhoid fever four deaths were

registered—two at South, and two at North Tawton. At the first of these villages, the cases were sporadic, but at North Tawton the outbreak rapidly assumed epidemic proportions. So far Mr. Ash has been unable to discover how the disease was first contracted, but he clearly shows that the subsequent cases were due to the use of polluted water. The well of water belonging to the house in which the first patient lived became polluted by the washings of utensils and by the house-slops thrown into an insecure drain connected with the pump-trough. *Every person who afterwards drank the water was struck down with typhoid fever, and each case could be clearly traced to this specifically polluted water.*"

Our final extract, for the present, is taken from a most instructive report by Dr. Britton, of the Halifax Combination. Here we are brought face to face with those conditions in houses which breed special diseases, whose occurrence can be predicted with a certainty that is little short of absolute.

"A case of scarlet fever recurred at a farmer's house, in which there had been cases of fever of various kinds for many years. Nothing could be found to account for this, until the floor of the kitchen, which was used as a living-room, was taken up, when a large elongated cesspool was found, from which were taken two cart-loads of very offensive sludge. The drain was filled up, and there was no more illness in the house. In another district, a man had been carting manure, from the 17th January to the 20th, at a time when scarlatina was very prevalent in Halifax, and the closets in the infected districts were emptied every other day. On the evening of the 20th, he had sore-throat; and, on the 25th, two of his children began to have scarlatina. On September 17th, a man at Brighthouse entered into a house which had an open ashpit under the windows of the bedroom. He complained much of the smell; and, on the 24th, he began to be ill, and had a smart attack of enteric fever. The ashpit was immediately covered, and no other cases resulted. In the latter end of April, an epidemic of diarrhœa broke out in the Rushworth Grammar School, from which forty-two boys, four girls, and four servants suffered. It is supposed to have arisen from the drinking-water having been contaminated by manure from a field. At Outlane, a young woman, aged 27, of delicate constitution, lived in a house in front of which was a private road, under which ran a drain from some cottages. This drain was broken through by a cart passing over it, and was left in that condition several days. As this woman came home from the mill where she worked to her meals, she complained much of the smell, and, seven days afterwards, she began to be ill, took to her bed, and lived just fourteen days."

The first step towards remedying these notorious and widely-spread evils, is to diffuse a knowledge of their existence, and, above all, of their causes as demonstrated by science. There is an additional remark of value, and one which applies to much of the ill health caused by defective houses, namely that "the convenience of having wells, closets, pigstyes, and drains near to a back door is generally, even by well-informed people, considered before sanitation; and, until illness occurs as a consequence, it is not thought of."

EARACHE.—In the American Medical Association, Dr. Jacobi remarked that closing the mouths of infants and children and simply blowing into the nose is often a very valuable method of relieving earache, and that in a number of cases he had obtained most excellent results from this procedure, the cause of the trouble probably being a catarrhal affection of the Eustachian tube.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### THE AMUSEMENTS OF THE PEOPLE.

By J. G. STARK, M.A.

ANDREW FLETCHER, of Saltoun, said a wise thing in his day and generation, when he wrote to the Marquis of Montrose: "I knew a very wise man that believed that if a man were permitted to make all the ballads, he need not care who should make the laws of a nation." John Selden, said by Clarendon to have been of stupendous learning in all kinds and in all languages, and a contemporary of Fletcher, gave vent to a similar sentiment. "Mere solid things," says Selden, "do not show the complexion of the time so well as ballads and libels." We might aptly parody the opinions of Fletcher and Selden by saying that the amusements of a nation indicate very correctly its intellectual and social progress.

These are few signs of social advance and culture which present a more interesting study to the thoughtful than the employment of the leisure hours of a nation. That there exist serious nations and frivolous peoples admits of no question. What is true of nations, is equally true of individuals. The late Dr. John Brown, of Edinburgh, author of the immortal "Rab and his Friends," and a deep student of both human and dog-life, was found to remark of one of his canine acquaintances, that life "was full of seriousness" for this particular dog—he was never happy unless he was "fechtin'." Individual temperaments occasionally resemble Dr. John Brown's dog. Such persons take their amusements seriously; and, indeed, this remark has been held to apply to the whole of the northern races, which, destitute of the gay surroundings and genial climate of the south, spend life, as a whole, solemnly, decorously, and earnestly.

But there is no scientific or social reason why life should not include amusement and recreation, as well as hard and earnest work. Mankind seeks recreation by a natural impulse, and there are few, if any, who do not tacitly recognise that amusement is as important an item of life as labour itself. Shakespeare, with his accustomed felicity, strikes a true note of the human constitution when he says:—

"Sweet recreation barred, what doth ensue,  
But moody and dull melancholy,  
Kinsman to pain and comfortless despair?  
And at her heels a huge, infectious troop  
Of pale distemperatures and foes to life."

The Bard of Avon was a true health-advocate when he penned these lines. Butler is no less a powerful pleader for recreation as a necessity of life when he says:—

"Nothing more preserves men in their wits,  
Than giving of them leave to play by fits:  
In dreams to sport, and ramble with all fancies,  
And working, little less extravagancies,  
The rest and recreation of tired thought,  
When 'tis run down with ease, and over-wrought;  
Of which whoever does not freely take  
His constant share, is never broad awake."

It is thus a sound philosophy of life that fully and freely recognises the need of humanity, not only for relaxation from toil, but of having the hours of ease made pleasant and enjoyable.

The amusements of our nation cannot certainly be charged with any lack of variety, but the wisdom and

healthy character of many of the occupations of leisure hours form quite another and widely different matter. We shall have ample scope in future for the full and free discussion of the health aspects of the games and sports in which our young people indulge. The scientific and physiological regulation of sport is in itself a vital matter. The tendency to over-do exercise is very frequently seen around us at the present time, and we shall not fail in our bounden duty of raising, wherever and whenever necessary, a warning voice against the abuse of exercise. That which more nearly concerns our present purpose, however, is the question of the amusements which are open to and indulged in by the masses of our towns and cities, who equally with the young require reformation and guidance in their wise selection of recreation for leisure hours.

The masses in our great cities do not possess a large variety of amusements from which to choose and select their recreations. Summed up very briefly, the amusements of the adults among the working-classes may be said to be largely limited to an occasional game of football or cricket, to walking (or more frequently "lounging" about), and to a visit to a music-hall or cheap concert-room. One startling deficiency, which marks the life of the masses, and which strikes the health-reformer with surprise when first the truth dawns upon him, is the absence of means of healthy recreation at the command of the working man and his family. The wisest and best friends of the masses have begun to recognise that it is the want of sensible, healthy recreation which drives thousands to the public-houses, and which crowd the bars of the gin-palaces. It is of little avail to attempt to better the social order which prevails, when leisure hours are a source of weariness and when a man or woman has no adequate and rational means of recreation. The time allotted to leisure must be passed somehow or other, and it is by no means wonderful that, in the absence of better ways of spending the hours of rest, those whose opportunities and means of recreation are few or none, should find in the public-houses the only place suited for their wants. Sooner or later—and the sooner the better—we must begin to see that the social problems of health, temperance, and physical and moral well-being are not to be attacked from any one standpoint but from a whole array of vantage-grounds. And amongst these latter the question of providing rational and healthy amusement for the people, certainly assumes a very prominent place.

If we select a single amusement of the masses of great towns by way of showing what may be done in the way of improving and extending their recreations, we may be the better able to point out the way of reform. A visit to an ordinary music-hall does not impress one at all favourably with the elevating or healthy character of the entertainment there afforded. To begin with, the atmosphere is stifling, and healthy enjoyment, amidst a surrounding of tobacco-smoke and foul air, is, of course, an impossibility. Of the character of the entertainment we do not desire to speak in any censorious tone. Many of the songs, &c., are unobjectionable, but it is undeniable that songs and ditties are sung on the music-hall boards which are of a highly suggestive kind, and which contain nothing that is elevating or high-toned, but exhibit a very degrading tendency and a low morale. It must not be imagined that we decry such musical entertainments. We believe, on the contrary, that this form of recreation appeals to the best sympathies we possess, and is in itself innocent, healthful, and amusing. But the modern music hall is, firstly, not a sanitary recreation ground, and it is susceptible of being vastly improved, from a truly enter-



taining point of view. We fully recognise that such entertainments exercise an educative power over the people. What we desire to see is the wise, judicious, and moral use of the power these recreations possess. There can be no reason why a music hall should not be well ventilated so as to render an hour or two spent within its precincts at least enjoyable. If the working man or any other person is to enjoy his hour of rest, and to smoke his pipe in peace and comfort, it behoves the proprietors of such establishments to see that provision is made for the purity of the atmosphere. Wherever tobacco is consumed, we should make additional provision for free ventilation; and we are certain that by attending to this recognised source of enjoyment, the ordinary music-hall would at least lose one of its objectionable features. As regards the moral character of the entertainments presented at these establishments, we need not add to the opinions already expressed. We are firm believers in the policy of educating the people up to a high standard of morality and pure enjoyment. We believe that what has been successfully attempted in the case of the literature of the masses can be accomplished in the matter of their amusements. If we mistake not, the experiment of giving in the East-end of London, concerts at which music of a very different order from the ditties sung in music-halls, was performed, has been tried with success. One of the largest halls in London largely attended by the occupants of the slums and alleys, is now under the management of a committee of ladies and gentlemen, who have found that even a short lecture, well illustrated by lantern slides or experiments, is listened to with attention by those who formerly were loudest in their applause of vulgarity or worse. Reform in the amusements of the masses, once started, is sure to prevail mightily in the end.

### THE LAST BOAT RACE.

AN interesting comparison has been made between the weights of the Oxford and Cambridge crews during the process of training, and shortly before the recent race. An additional interest has also been given to the comparison from the fact that similar statistics of the two preceding races are also supplied us. We need not enter into detailed particulars, but may content ourselves with the results. Briefly put, whilst the Cambridge crew decreased in weight the Oxford men exhibited either an increase or remained *in statu quo* towards the end of their training period. Taking the statistics of 1881, we find that the total weights of the Oxford crew on March 28 amounted to 93 st. 4 lb.; whilst on April 9 their weights amounted to 94 st.  $\frac{1}{2}$  lb. No. 7 alone lost weight, and this to the extent of 8 lb.; the total increase of weight over the whole crew being  $10\frac{1}{2}$  lb. In 1881 Cambridge weighed on March 28 to the tune of 95 st., and on April 9 showed 93 st.  $12\frac{1}{2}$  lb. There was a total decrease (shared in by every man in the boat) of  $15\frac{1}{2}$  lb. In 1882 the Oxford weighs on March 20 was 93 st. 2 lb., and on March 31 94 st. 5 lb.; a total increase (shared in by the entire crew) of 17 lb. was shown. Cambridge in 1882 weighed on March 20 96 st. 4 lb., and on March 31 95 st. 2 lb. Nos. 4 and 6 gained  $\frac{1}{2}$  lb. and 2 lb. respectively, but the total loss was 16 lb.

In the present year, the Oxford weight on March 5, was 93 st. 11 lb., and on March 16, 94 st.  $12\frac{1}{2}$  lb. No. 3 had apparently remained stationary between the weighings; whilst the stroke had lost 2 lb. The remaining six men exhibited an increase, varying from  $4\frac{1}{2}$  lb. to  $1\frac{1}{2}$  lb.; and there was a total increase of  $15\frac{1}{2}$  lb. Cambridge, weighed

on March 5, gave a total of 98 st. 7 lb.; and on the 16th, showed a decrease to 97 st. 8 lb. With the exception of No. 2, who had gained 2 lb. in weight, the remaining seven rowers lost weights varying from 4 lb. to 1 lb. A total loss of 13 lb. weight was registered on March 16, against Cambridge.

Oxford won the race in all three years. Hence the foregoing statistics possess a high interest for all connected with training. A gain of weight in training has thus been associated with victory, and a loss of weight with defeat. It is, of course, impossible to argue very far from such limited statistics, but we believe the inference is justifiable enough, that up to a certain point, loss of weight in training is an advantage, whilst carried beyond a given point, such loss is injurious. Naturally, in training, the body parts with its excess fat first; but beyond this stage of removal, loss of weight in any given case seems to imply an equivalent loss of power and strength. The essence of training is to remove bodily encumbrance in the shape of excess of tissue, and to conserve, by careful dietary and husbanding of substance, the strength and vigour required for the actual work of the contest.

THE PERILS OF "PUFF AND DART." —Dr. Bruce, of Edinburgh, has reported some cases of the greatest gravity and significance, in which death has resulted from drawing back the dart into the larynx and lungs during an involuntary inspiration at the instant of applying the tube to the mouth in the game of "puff and dart." The dart is usually made of a needle or long pin, the hinder end being padded with worsted, so as to fit the tube. By blowing forcibly through the tube, the dart is ejected. This toy is a very old one, but practice does not diminish the danger which attends its use. A deep breath must be drawn before blowing into the tube, and it is extremely likely that this will not be concluded when the tube reaches the mouth in the act of applying it quickly. Again, any person may be seized with a fit of coughing on the first effort to expire, and the dart is, under these circumstances, extremely likely to be drawn into the mouth, and to pass into the larynx. If it does so enter, it is probable that it will go far in, as the worsted padding will form a soft plug; and the needle-point being outwards, the next expiratory effort is almost sure to drive it into the wall of the larynx, or bronchial tube, rendering extraction extremely difficult, if not altogether impracticable. In two of the cases which Dr. Bruce has described, death ensued after much suffering. It is a peculiarly melancholy and distressing death to die, this slow killing by a foreign body in the lung, and the distress of patient and friends is necessarily greatly enhanced by the reflection that the pain and loss of life have been the results of recklessness. The ordinary pea-shooter is a foolish instrument of the same class; and there are cases on record in which even so small a body as a pea has caused death by being gradually drawn into a small bronchial tube, where it has acted as a "pea valve," passing a little further in with each deep or prolonged inspiration, until the air has been wholly pumped out of the lung behind it; and disease has been set up in consequence, partly by its pneumatic effects on the organ, and partly by the irritation and inflammation its presence has set up. Life is sufficiently beset with perils which are unavoidable. It is needless to make new dangers, and it is particularly silly to do so when there is really little, if any, amusement to be got out of the diversion to which the peril is attached. We trust the perils of "puff and dart" may be made extensively known by our readers, and that the foolish game, with its dangerous apparatus, may quickly fall into disrepute, as it is not worth the risk run.—*Lancet*.



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**THE EXAMINATION MANIA.**—At the present time, when parents and guardians are beginning to be awakened to the enormous evils which attend the undue forcing of youthful brains, the following remarks on "cramming," culled from a medical contemporary, should prove of practical interest:—"The subject of 'cramming' at school has occupied a large share of public attention lately. The setting of home lessons, which, besides overtaking the pupil, have usually to be prepared under the direction of the parent and not by the teacher, is the feature which causes most dissatisfaction. The practical outcome of the discussion so far has been the issuing of a circular by the Glasgow School Board, which, as it is an eminently common-sense document, may be commended to the attention of other Boards. It is too long for quotation here in full, but we may say that it admits that 'by far the greater portion of the work of education should be discharged within the school itself,' and not at home. It directs that home-lessons should be given steadily throughout the year, and not specially before the annual inspection, and that they should be proportioned to the age of the scholar and his home opportunities for study. When a scholar is under several masters, it is to be seen that the home work prescribed by any one of them is not excessive. A respite in the middle of the week is recommended, the suggestion being that the work for Wednesday evening be lighter than that for any other evening. No extra lessons are to be set for Friday evening. The detention of scholars after time-table hours, either as a punishment or for the preparation of lessons, is condemned. These regulations should have some effect in lessening what everyone admits to be an abuse, and one of the most serious evils connected with our present system of education. May it not be the case, however, that the secret of the matter lies deeper, in the principle on which the Education Act is framed—namely, the payment of masters by results? Under such a system it is not in human nature to resist the temptation to work scholars hard, and so to get as much as possible out of them."—*Lancet.*

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**THE SHOES OF THE PAST.**—At the first look an old shoe does not seem a thing to conjure with. And yet it has its sentimental side, and there is a world of pathos surrounding such a collection of boots and shoes as that of the late Jules Jacquemart, being shown at present—or soon to be—at the Cluny Museum in Paris. There is much character in a shoe, as was recognised by Mr. C. Robertson in his quaintly humorous "Shoes of the Faithful," shown at the Royal Academy four years ago; and by Lord Palmerston—though in different fashion, and with something of insular prejudice—when, speaking of some sin of omission or commission on the part of our Ottoman allies, he said, "What could you expect of people who wear no heels to their shoes?" M. Jacquemart's collection has, therefore, an intensely human interest. For the historian and the archaeologist it must help to revivify the dead past; to the ordinary Dryasdust it will supply material for unending garrulity. The man of science can build the megatherium on the basis of a bone. Why should not the man of history conjure up the human entity out of an old shoe? One thing M. Jacquemart's research proves incontestably, that human folly is pretty uniform at all

times and in all places. We are still as prone to perch ourselves on high heels, to the injury of our anatomy, as our ancestors were four centuries ago; we still strive to make the foot covered as little like the foot bare as we possibly can. The pointed boots worn at the present day—in the most aggravated form by young ladies—with the toes quite visibly curled into a ball, are not one whit less absurd than the *cioppini* or *chapiney*, or, as Hamlet calls it, the *chopine*, on which the ladies of the sixteenth century and later were wont to elevate themselves. The *cioppini*, if we are to believe Cobarruvias, was invented to prevent women from gadding. It was made first of wood and afterwards of cork, forming a clump under the shoe, and was sometimes a foot and a half high. In spite of its handsome accessories, as white and coloured leathers, lace, gilding, and painting, it must always have been most inelegant, always most uncomfortable, and ladies walking abroad were fain to lean on their attendants to prevent an ignominious downfall. No one now-a-days would be so bold as propose (even if it were considered desirable) anything which, like the *chopine*, would restrict female perambulations; but women do so unconsciously themselves by means of tight boots and pointed toes. Surely they will some day throw off the yoke of the fashionable shoemaker. It requires less courage than was displayed by the daughters of the Doge Domenico Contarini, the first, it is said, to set the example of descending from the bad eminence of the *chopine*, or by M. Roland in going to Court minus shoe-buckles, to the dismay of Louis XV. and his ushers and waiting gentlemen.—*Glasgow Herald.*

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**FEMALE HALLUCINATIONS.**—Recent circumstances have directed attention to certain remarkable delusions to which females of unstable, nervous equilibrium are subject, either through hysteria or through similar disorders of the nervous system. Charcot and Bourneville give instances of the extraordinary self-deceptions that are frequent amongst hysterical patients. Dr. Légrand du Saulle, physician to the Salpêtrière, Paris, describes in his standard work, "*Les Hystériques*," some remarkable cases of hallucination, where females laboured under the belief that they have been struck or stabbed by others, even after having inflicted blows and wounds upon themselves. In one instance a young woman was found by her husband lying on the floor of her room in a fainting fit, her face covered with blood. On reviving from her swoon, she stated that she had been attacked by armed men; the Paris newspapers related the case, and within three weeks two similar events occurred in the French metropolis. All these cases proved to be fabricated by the supposed victims. A young girl wounded herself slightly with a pistol. She gave the police authorities the most minute details about an imaginary assassin who, according to her account, fired the weapon, but she was found to be highly hysterical, and it was proved that she had wilfully wounded herself. In a third case in Dr. Du Saulle's experience, a young woman was found in a railway carriage stabbed in the left side. The incident caused great excitement, but it was proved, contrary to her assertions, that she had inflicted the wound herself, and was a hysterical subject. A housemaid was found lying behind a door, bound, gagged, and covered with bruises. She stated that she had been brutally attacked by two burglars with blackened faces, but she was a highly hysterical woman, and there appears to have been strong evidence that she had contrived to tie her own hands and to gag and bruise herself. Perhaps the strangest case of all occurred in M. Tardieu's practice. A young lady, living at Courbevoie, wished to



make herself an object of public interest by passing as a victim of a political conspiracy, which she pretended to have discovered. One night she was found in a state of the greatest mental perturbation at the door of her apartment. She could not talk; but stated in writing that she had been attacked outside her own house by a man, who had attempted to garrotte her, at the same time striking her twice with a dagger. Only the lady's clothing was injured, and the body of her dress and her corset were found to be cut through, but at different levels. She tried to make out that the attempt at strangulation had caused dumbness. M. Tardieu remarked, in her hearing, that this infirmity rapidly disappeared when produced under circumstances of this kind. She soon managed to regain her speech, and in a short time admitted that the whole narrative had been developed out of her inner consciousness. Eccentricity in relatives is ever strongly presumptive of self-deception, when a female makes any statement or charges of ill-treatment of any kind. The constant fear of assassination, especially if based on reasonable grounds, is particularly liable to predispose nervous or excitable subjects to extraordinary delusions of this kind.—*British Medical Journal*.

♦ ♦ ♦

**WOMEN'S CLOTHING AND COSMETICS.**—If women would only allow common-sense to govern them, they would feel that for the inch or two they diminish the circumference of their waists by tightening themselves in, they become unattractive in so many other ways; quite leaving on one side the hygienic part of the question, which, alas! the vain and foolish will never consider. There are few indeed, who, like the clever and beautiful Maréchale de Soubise, Louis the Fourteenth's faithful friend, will make the sacrifice of giving up all meat except chicken, and never wearing stays, for fear of injuring their health or their complexion. Another absurd practice is that of tying the skirts so tight that walking becomes an agony; there is no doubt that many have thereby been debarred from healthful exercise for years. Much harm has also been done by the profuse use of perfumes, of which musk, patchouli, jessamine, &c., form the basis. These ingredients are depressing to the nervous system, acting upon it as poisons; just as they would, if given inwardly and at the right time, prove the most powerful medicines. Ladies quite forget the inconvenience and discomfort caused by this practice to their more sensitive neighbours in church, at the theatre, or at dinner; for mutton tasting of musk, or chicken à la patchouli, is not likely to increase the appetite. At the best of times the suggestion of the perfumer's shop is not a poetic one, and the faintest suspicion of violets, lavender, or

The new-mown hay,  
Gives a sweet and wholesome odour,

and are quite sufficient to remove any disagreeable smell that might cling to such textures as wool or lace. Cosmetics and paints, too, are at present much used, especially in England. They are as fatal to health and beauty as they are misleading in effect. The blackened eye may look larger and the painted lip redder under the uncertain flare of the gas-lamp; but when seen at home in the broad and honest noonday sun, the eye is lustreless, the flaming carmine distorts the mouth, the powdered skin loses its transparency, and the soft brown hair which formerly enhanced the whiteness of the skin, now appears a lifeless growth of metallic yellow or mahogany red, without light or shade in it. The very men who pretend to admire these artificial dolls, would hesitate to range their sisters amongst or choose their wives from their ranks, thus once more

verifying the old dictum, that a thing may look well in the shop window and yet not be adapted for home wear and tear.—Lady Paget, in the *Nineteenth Century*.

♦ ♦ ♦

**ELEMENTARY EDUCATION IN SAVING LIFE.**—Now that education is commencing, as a matter of State policy, to be widely disseminated, it is time to inquire into its limits as well as its character. To the ordinary curriculum of schools there might surely be added some such smattering of scientific knowledge as would fit a child to deal in after life with the kind of experience he is likely to encounter. Long ago Mr. Herbert Spencer pointed out the extraordinary absence of preparation for the duties and responsibilities of married life and the education of children which marked our training. Nothing has been done since that time to remedy a state of affairs which is damaging to our claim to be a practical race. I see no reason why a girl should not obtain such elementary knowledge of the requirements of infancy as would prevent her when a wife from killing her child through mere ignorance and stupidity. Knowledge how to handle an injured man, how to staunch temporarily a wound, and the like, should be supplied to all who are intended to be artisans. It would scarcely be going too far if our policemen could be taught to distinguish between apoplexy and drunkenness; but that is a lesson that could scarcely be supplied in youth. It is astonishing how far we yet are, with all our recently-acquired knowledge, from grasping the theory of education as it was grasped by a school of philosophers from Rabelais to Locke.—“Sylvanus Urban,” in the *Gentleman's Magazine*.

♦ ♦ ♦

**ANILINE DYES AND HEALTH.**—The following letter, culled from the *Lancet*, deals with a topic of high social importance. “Subscriber” says:—“Speaking to a German gentleman to-day, I was informed that an agitation was on foot in Germany, having for its object the suppression or limitation of the use of aniline dyes in the manufacture of articles of clothing. These dyes have been found to be highly prejudicial, and even dangerous, in some recent remarkable instances, and a strong feeling in opposition to their use has been set up in certain quarters, which is likely to take the form of what we should call Parliamentary action. I should like to invite your powerful influence to raise a discussion on the subject in this country, where the use of these dyes is becoming so universal. My impression is, although I advance it with all humility, that a great deal of impaired health and unaccountable ailment may be traced to the use of clothing, especially underclothing, into the manufacture of which aniline dyes and their ingredients largely enter. Much was said some time ago about arsenical wall-papers and their prejudicial consequences, and seeing that aniline dyes are “fixed” with the same fatal poison, how much more serious must be the effect of a garment upon the wearer whose body is all day long in contact with its subtle and deleterious influence?”

**FASTING.**—Amongst his other curiosities Dr. Bourneville gives us an account of a fasting idiot who rivals Dr. Tanner, at least in abstinence from food, without the slightest desire to have the thing talked about. He commenced his first fast at two years of age, taking nothing but water for five weeks. The second fast was when he was seven. The longest one lasted twenty-eight days. He rejected everything but water and chicken tea without salt. The alvine evacuations were suspended. The fasting occasionally followed epileptic fits, but were not voluntary or accompanied with melancholia.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

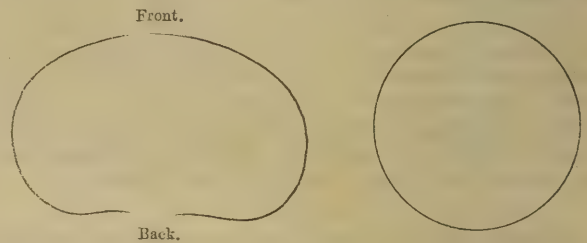
*Modern Dress, and Clothing in its Relation to Health and Disease.* By T. FREDERICK PEARSE, M.D., L.R.C.P. Lond., M.R.C.S.E., &c. (London: Wyman & Sons.)

It may be affirmed without exaggeration, that the "Dress Question" is becoming one of the prominent topics of the day. Long ago, physicians and surgeons lectured on the "frivolities of fashion," and condemned tight waists and compressed chests; whilst they inveighed against other physiological enormities in the shape of boots and shoes made, not for comfortable wear, but for fashionable display. Now we find the battle of science and health *versus* inanity, discomfort, and disease, to be continued as of old. The ground has not changed, and the fight is still fought with energy and courage; but it is a one-sided combat after all. It is well, however, to point out that the fight is only erroneously styled one of science and health against "fashion." If by the latter name we are to indicate everything that is extreme and unhealthy, then the contest may, perhaps, be so denominated. Is it correct or just, however, thus to style the attempts at dress-reform which are so closely engaging our attention to-day? There is no element in "fashion" itself which is necessarily injurious to health, any more than there exists in ordinary "amusement" anything which can be condemned as essentially "sinful." It is the abuse of fashion, or the perversion of taste into erroneous and unhealthy channels, which is to be deprecated and deplored. "There is nothing against good fashion in dress," remarks Dr. Pearse, in the volume before us, "if the fashionable article is not in any way injurious to health." "It is quite possible," he adds, "for a lady's dress to be both healthy and pretty." These are sensible words, and they strike the key-note of true reform. Many a woman, who is a slave to prevalent dress evils, would be only too glad to lay aside the attire she knows is uncomfortable, but fails in her resolution from the dread of being doomed to that enemy of the sex, "frumpishness." Once assure women that they can dress healthily and elegantly, and they will certainly not neglect the advice of those who, like Mr. Treves and Dr. Pearse, have shown so boldly and well the endless evils of fashionable follies. Best of all, the ladies themselves are stirring in the good work. Such aid is worth many physiological and purely scientific protests against unwise dressing and infringement of other health-laws. When we hear of the realisation of such practical schemes for dress-reform as those incorporated in the announcements of a "Rational Dress Exhibition," to be held in London, in May, 1883, and of an Exhibition of Hygienic Clothing also to be shortly held in London, we may congratulate ourselves upon the apparent and approaching solution of the vital question, "How can women dress at once healthily, elegantly, and fashionably?"

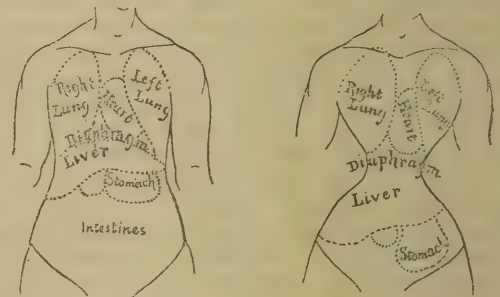
A work like that of Dr. Pearse is eminently calculated, we think, to assist the promulgation and advocacy of dress-reform. It is written in a plain, yet accurate style. There is no appeal in any of its details to sensationalism or exaggeration; and the homely, but direct, counsel which is given in the pages of the book, will assuredly influence favourably all who read it. In addition to these salient points in Dr. Pearse's book, we may add that it contains, within small compass, a wonderful amount of physiological information. In the first chapter, for example, a large amount of information, concisely put, is given respecting

the functions of the skin and the maintenance of animal heat. The "Nature of Clothing" is shown in the second chapter, and some very sensible remarks are included under this head. The sections on "Colours in Dress," and on "Circumstances Determining Particular Kinds of Clothing," should be read attentively. A vast number of errors arise from the choice and wear of improper *materials*, as well as from unsuitable *modes* of dress; and especially in the case of the young do the views of Dr. Pearse commend themselves to parents and to all who have the care of youth.

Naturally, the section on "Women's Dress" will attract public notice in this period of dress-reform. The accompanying illustration (taken from Dr. Pearse's work along with the other woodcuts we reproduce) shows the natural



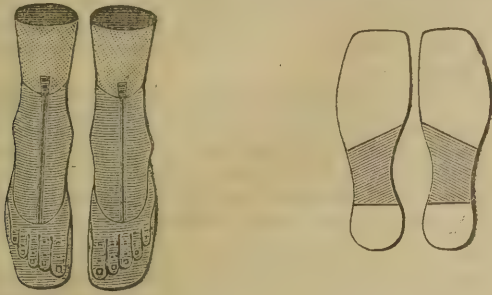
and unnatural shape of the waist. Whilst the natural outline or section of the trunk shows a broadened oval, the unnatural compression of the chest by tight stays gives us a perfect circle. The following illustrations reproduce



in outline the natural position of the internal organs, and also show the displacement which the fashionable craze for tight waists—a practice or idea singularly obtrusive at the present time—inevitably produces in the subjects of the distortion. Besides interference with breathing, Dr. Pearse says, "The lungs are compressed forwards and upwards, and have been known to bulge in the hollows above the collar-bones. The heart is also pushed out of its place—somewhat upwards, and more towards the middle line of the body. The liver, which does not naturally extend beyond the margins of the ribs, is pushed down even as low as the crest of the hip-bone. The stomach is pushed down, and towards the middle line." Dr. Pearse's indictment against tight-lacing is much more extensive than we can reproduce here; but there is not a word in it which can be spared; and he does not exhaust, long as his list of diseases and evils is, the category of ailments which this ineffably silly and ungainly practice engenders. Two considerations alone might serve to show the gross evil of this folly of chest distortion—namely, that a woman with a compressed waist can never walk gracefully; and that as she sooner or later suffers from chronic dyspepsia, she is certain to lose that natural and healthy bloom of the skin which is one of the most valued and justly-esteemed possessions of the sex.



Space fails us in our attempt to enumerate many other interesting details dealt with in Dr. Pearse's manual. The question of healthy boots is, in itself, of high importance. Dr. Pearse thinks boots with square toes, as depicted in the illustration, the most suitable (other considerations of



fit being attended to), because the peculiar appearance of the slope from the great toe to the outer toe is thereby avoided. Our experience is, that if boots be made with this anatomical slope to suit the toes, the altered appearance of the boot is really by no means noticeable or ungainly. The soles of the "healthy boots" are also figured by Dr. Pearse, who adds that all boots should be made "rights" and "lefts;" and that the feet should be properly measured, and the boots, in fact, fitted to the feet comfortably and anatomically, as a coat is fitted to the back. The shoemakers, we believe, are by no means unwilling to adopt rational views regarding boots; and it is to be hoped that the pointed toes and high heels of modern boots, along with the corset, will soon be confined to the limbo of effete social enormities. Dr. Pearse's work will assuredly assist those reforms in dress which are so much required, and which cannot come a day too soon.

**RATIONAL DRESS.**—We reprint the following letter from the *Standard*.—"Sir,—During my absence from home the committee of the Rational Dress Society has, I am informed by the Viscountess Harberton, appointed a paid secretary to perform the work I have hitherto done as hon. secretary. As this leaves me a merely nominal position, I have retired from the Society. Being anxious, however, to carry on the work of Dress Reform with the power which combination gives, I am forming another Society, to be styled 'The Rational Dress Association.' This Society will be composed of both men and women, as I find from letters I have received that many men wish to join us, in order to reform their own dress as well as to help us. I am confident, also, that associating with them we shall gain more courage ourselves, and possess greater power to carry reform among all classes. I retain the title, Rational Dress for the Association, not because I wish to try and identify it with the first society, but because from my work in making the title and principles of Rational Dress known to the public, I think I have earned the right to retain it. As inquiries are daily made to me as to whether the Exhibition of Rational Dress is to take place, I should be glad to state that it most certainly will, and that it is only owing to my serious illness, and to the many vexatious obstacles which have been thrown in my way, that the necessary arrangements for it have not, ere this, been completed. Those who may desire further information as to the new Association, or the Exhibition, can write to me at my town address, 34, Cornwall-road, Bayswater, or to my business agent for the Exhibition, Mr. John Flack, 74, Great Queen-street.—I am, Sir, your obedient servant, E. M. KING. Pension Victoria, Montreux, Switzerland."

## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

This department of HEALTH is intended to serve as a means of eliciting information on all matters pertaining to Sanitary Science.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. Communications intended for the EDITOR to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

Books intended for Review, should be addressed to the Editor of HEALTH, 74, Great Queen-street, London, W.C.

Medical Officers of Health and Sanitary Inspectors will oblige by forwarding their Reports to the EDITOR. Reports of meetings of Sanitary Societies, and abstracts of papers bearing on Health topics, should also be addressed to the EDITOR, at the office. Descriptions of new Sanitary Inventions, Sanitary Appliances, and specimens of apparatus or articles bearing upon and used in sanitation, should also be sent, prepaid, to the office, and addressed to the EDITOR of HEALTH, 74, Great Queen-street, Lincoln's-inn Fields, London, W.C.

To CONTRIBUTORS.—The staff of contributors to HEALTH being large and fully equipped, the Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

## LETTERS TO THE EDITOR.

### FACTORIES AND WORKSHOPS.

SIR,—As a working-man, daily engaged in a labourious occupation which entails upon me severe strain and danger to health, I should feel obliged by your giving in *Health* a series of articles on trades and occupations, as these are related to disease and health. I know that there are certain diseases to which each trade is liable. What can science do to prevent these diseases? Your journal is so cheap and handy, that it is sure to find its way into many a workshop and factory. If you can give articles such as I wish, you will benefit many a toiler.—I am, yours truly,

April 12, 1883.

A WORKING-MAN.

[Our correspondent, and many others also, must give us a little time. We have marked out the subject of "Trades and Health" for early treatment.]—ED. H.

### INFECTION.

SIR,—I observe in your excellent journal that you wisely begin your campaign against disease and death by showing people "what to do" when fever invades the house. Doubtless you will treat very soon of infection, and the many ways in which the seeds of disease are carried; but you may, perhaps, be interested to learn how, in my experience, diphtheria was conveyed from one house to another through the carelessness of a servant. A household was infected with diphtheria whilst staying near the sea, in the holiday-season. The clothes of the patients were disinfected, and were cleansed and washed at the seat of illness; but the general clothes of the household—sheets, table-linen, &c.—were reserved for the home-coming, and were despatched home by rail a distance of over a hundred miles. In the home, I must mention, two of the children and a governess resided, their holidaying being obstructed by the illness of those who preceded them at the seaside. Some time after the arrival of the parcel of general linen, &c., at the home, the servants were seized with diphtheria, and the children and the governess were also infected, all of them, however, eventually recovering. The source of the disease was an apparent mystery; but the medical attendant insisted that infection must have been conveyed with the clothes, as no cases of diphtheria had occurred for years in the neighbourhood. This view was indignantly opposed by the parents



and others in charge of the patients at the seaside, until, on the linen—now clean and washed—being overhauled, two handkerchiefs, identified by their bearing the names of the patients as having been used to wipe their mouths, were discovered amongst the clothes which had been sent from the seaside. The linen, after arriving at home, had been allowed to remain about some time before being washed, and there seems no reason to doubt that as the handkerchiefs were charged with the diphtheria-matter, they conveyed the poison to the home. The handkerchiefs had evidently escaped the eye of those at the seaside, and had likewise escaped disinfection. I think the incident shows how carefully all articles of clothing, &c., used in any way by a fever-patient should be at once disinfected, and not left to become a source of danger to others.—I am, Sir, yours truly,

A SUFFERER.

London, April 13, 1883.

[Several "Letters to the Editor" are unavoidably held over.]

## QUERIES AND ANSWERS.

[We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply. We ask the indulgence of correspondents owing to the large number of communications received each week, and many of which necessitate considerable research to ensure satisfactory replies.]

Several answers are held over owing to pressure on space.

### I.—GENERAL 'QUERIES AND ANSWERS.

A. EMDEN.—See reply given to a correspondent under "Medical Queries and Answers."

XENO.—Published by Heywood, Manchester.

INQUIRER.—See our articles on "The Germ Theory," in which the matter you refer to will be treated. *Biogenesis* means the development of life from pre-existing living matter. This theory is opposed to that of "Abiogenesis" or "Spontaneous Generation."

THETA.—See "Medical Queries and Answers."

B. AUSTIN.—Yes. HEALTH can be procured of any bookseller or news-agent in the United Kingdom. We shall feel obliged by your reporting to the publishers any difficulties you may experience in procuring it. Our publishing arrangements are of very complete character.

GARDE.—Send us your name and address.

A. C. RYAN.—On literary business address the *Editor* only. See our notices to correspondents.

T. UPTON.—Thanks; your MSS. received.

B. A.—Your note to hand; and now receiving publishers' attention.

### II.—SANITARY QUERIES AND ANSWERS.

SUFFERER.—The case you mention is one very difficult of decision. A case was argued recently wherein a smell (which was admittedly disagreeable) was alleged to be a "nuisance" under the Public Health Act. It was alleged in evidence that, whilst the smell was offensive, it was not injurious to health. The case turned upon the interpretation of the statute relating to a nuisance, and as the Court (to which an appeal was taken from the magistrate's decision) was divided in opinion, the magistrate's opinion stood intact. This opinion held that a bad smell, if not injurious to health, was not a nuisance under the Public Health Act.

MILD.—Consult a respectable analytical chemist.

DRAIN TEST.—The substances used are oil of peppermint or other essential oils, paraffin oil, &c. These are poured down the drain at one end, this end and the other being then secured. If there are defective joints the odour would escape through any opening or crack in the pipe. Sulphur burnt at the lower end of the drain is sometimes used as a test.

PLUMBER.—So far as experience seems to prove, ordinary sewage does not affect iron piping injuriously. We have heard of sewage being used for steam boilers, the chief advantage being that, owing to the fatty and other matters it contains, it does not load the inside of the boilers with the lime "fur."

### III.—MEDICAL QUERIES AND ANSWERS.

X.Y.Z.—The functions of the spleen will be duly treated in our papers on "The Body and its Structure." The spleen is one of the "blood glands"—that is, it is devoted to the elaboration of the blood elements. *Goutre*, often called in this country "Derbyshire Neck," is an enlargement of the *thyroid gland*, which lies one-half on each side of the windpipe. *Goutre* is believed to be at least

partly caused by the excessive hardness of drinking-water. The treatment is (1) *preventive*—i.e., removal from a district where the water-supply tends to the development of the disease; (2) *local*—by aid of iodide of potass, &c. Ten grains of iodine and twenty grains of iodide of potass should be dissolved in twenty ounces (one pint) of water, and one teaspoonful of this mixture taken twice a day after breakfast and dinner. This should be increased by an additional teaspoonful to the dose each week, until six teaspoonfuls are taken for one dose. The external application of compound iodine ointment, rubbed on the gland night and morning, is also recommended.

DEXTER.—Yes: it is perfectly possible for infection in the case of fever to be conveyed by a letter. Cases have been traced to this cause. Fever has been brought by means of letters from an infected house into a family circle, resident in a locality where the particular epidemic was, at the time in question, unknown.

THOMAS G.—"Desquamation" means the peeling of the skin which occurs in many diseases during convalescence. In scarlet fever this feature is well seen.

A. C. P.—Hot baths, certainly, with a gentle aperient.

PALPITATION.—As often as not a symptom of stomach-disorder. Consult a physician, who will speedily assure you, in all probability, that the heart is practically unaffected.

PALETTE.—Lead-poisoning is due to the absorption of lead in some way or other, as by drinking water contaminated with lead, or by handling lead in one form or another. Painters are subject to "lead colic" from this cause. The blue line round the gums is a sure sign. "Wrist-drop," or palsy of the extending muscles of the hand, is also seen. In the treatment, iodide of potass and iron are given with aperients. A case of lead-poisoning requires careful watching by a physician. See "Notes" in No. 3.

SURGICAL.—(1). A "compound" fracture is one in which there is laceration or tearing and injury of the soft parts (muscles &c.). A fracture is "simple" when the bone is broken without such disturbance of soft parts. (2). "Epistaxis" is bleeding from the nose. This may be checked by injecting *warm* water.

STUDENT.—The general tendency of medicine as applied to the investigation of insanity is certainly to localise the seat of the various lesions of the brain, and to assume that insanity is a disease not of the mind, but primarily of the *brain*.

C. SINCLAIR.—We believe not; but you should inquire of the publishers.

INCLEDON.—"Gangrene" is the surgical name for what is commonly named "mortification," or the *local death* of a part. It is one of the results of inflammatory disease.

NOTA BENE.—Dengue is often known as "Breakbone Fever," and occurs in tropical countries, such as South America and the West Indies. The joints swell, and become painful. It is a peculiar fever, in that the symptoms subside and return at irregular periods. Quinine is given, as in ague, with opium to allay the pain.

A. C. O.—See Sir James Paget's lecture on "New and Rare Diseases," published recently in the *Lancet*.

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The terms of Annual Subscription to the weekly numbers of HEALTH are as follows:—

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All subscriptions are payable in advance.

HEALTH will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# HEALTH

## A WEEKLY JOURNAL OF SANITARY SCIENCE.

CONDUCTED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, APRIL 27, 1883.

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## Notes by the Way

“Health is the foundation of all our physical happiness.”—Herder.

PEOPLE are beginning to recognise that certain trades and professions, through their very nature, are injurious in special ways to health. Coroners' inquests, amongst their other uses and abuses, possess, at least, one function. They make people acquainted with odd bits of the life and labours of that “other half” of the world, of the life of which the remaining half is proverbially believed to be ignorant. Recently Sir John Humphreys held an inquest at Bromley-by-Bow, on the body of Lydia Laydon, aged 18, a lead-worker. Only a few days before her death this girl complained of “pains in her side,” and then took a fit. Medical evidence showed that she suffered from lead-poisoning. Death ensued from congestion of the brain, “accelerated by lead-poisoning.” Verdict accordingly. Sad to relate, the newspapers of April 5th contained a report of an inquest on the body of Lydia Laydon, aged 13 weeks, daughter of the Lydia Laydon above referred to. Verdict again: death from lead-poisoning. The emaciated mother gave birth to a child affected with the same dread disease that killed herself.

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MR. COLLIER, Deputy-Coroner for East Middlesex, held an inquest in St. George's-in-the-East, on the same day as that on which Sir John Humphreys sat at Bromley-by-Bow. Mr. Collier's case was also one of lead-poisoning. The subject was one Catherine Burns, aged 27, the daughter of a widow. Here, again, the sudden pains in the head were testified to, and here, again, the “fit” appears in evidence. Verdict: effusion on the brain, “accelerated by lead-poisoning.” The Deputy-Coroner dwelt upon the dangerous vocation of the deceased. We ought to hear the voice of Parliament upon dangerous trades and occupations; and Mr. Redgrave, we are glad to learn, suggests in his report that precautionary measures should be made compulsory by law.

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OF course, the influence of “mind” (or the work of brain and nerves) over body has long been recognised, and

some curious cases are related in proof of the assertion that excessive fear may cause death. Liston, the surgeon, once drew his nail over a patient's skin to mark a line along which his knife was to pass. It was before the days of chloroform, and the patient, doubtless mistaking the touch of the surgeon's finger for the knife, died there and then on the table.

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A PARALLEL case occurred the other day at the Necker Hospital, Paris. A *sergent-de-ville*, in the endeavour to capture a mad dog—or, at any rate, a dog *said* to be mad—was bitten by the animal in the arm. The wound was promptly treated, but the fear of hydrophobia preyed on the patient's mind. He applied for admission to hospital, saying he was suffering from hydrophobia. This was an *idée fixée*: no traces of the disease could be found; it was not even known that the dog had been rabid. In a few days he died raving mad, a victim simply to his prepossession and nervous fear. On *post-mortem* examination, not even the few and faint indications which hydrophobia leaves behind, were found.

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HERE is another case still. A young lady caught a severe chill, which brought on jaundice in an understood and natural enough fashion. Her sister, shocked at the yellow hue of the patient, took to bed in turn, firmly convinced she was also going to have an attack of jaundice. After a fortnight spent in bed—her medical attendant utterly failing to discern anything warranting treatment—an attack of jaundice supervened. The expected in this case happened, and now the young lady's mother—against reason, common sense, and science combined—believes that “jaundice is catching.” Nervous influence is really a duplex matter. Cheerful hopefulness favours recovery, but morbid fear engenders disease. Moral: always cultivate a cheerful and sanguine disposition.

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LOVERS of the “luscious bivalve,” otherwise the oyster, will be interested to hear that the French *savants* are investigating the nature and causes of the irritating or even poisonous properties which shell-fish are occasionally known to possess. In the oyster and other shell-fish certain peculiar substances named *Ptomaines* or “Cadaveric alkaloids” (in plain English, “after-death principles”) are developed. When the “Ptomaines” are injected into the blood of frogs, these animals become stupefied. Hence it is considered possible that persons who are “poisoned” by shell-fish owe their illness to the action of the “after-death” principles of the oyster or mussel.

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THERE is no doubt that shell-fish may, under certain circumstances, become poisonous in nature. In 1827 an epidemic occurred at Leith, N.B. Many persons became ill after eating mussels which had been taken from one of the docks. “The town,” says Dr. Combe, “was in a ferment,” and several fatal cases occurred. It was urged, and with some show of reason, that the feeding of these mussels must have been of an impure description.

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THE case of the poisonous properties of shell-fish is paralleled by the discovery that in human saliva, or “water” of the mouth, exists a principle which, when injected into the blood of birds, stupefies them. We know that the poison-gland of a serpent is merely a modified salivary gland. We also know that in the rabid dog the saliva acquires poisonous properties. It thus seems very



likely that the saliva, harmless in healthy animals, may become poisonous in disease; and even that the saliva of one animal may be poisonous when introduced into the blood of another animal.

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HERE is a piece of news for wearers of red stockings. Dr. Woodland having been consulted respecting a number of cases of eruptions on the legs and feet, found that the patients wore red stockings. He suspected these articles of attire, and having made an analysis of them, discovered a compound of tin which is used as a mordant in fixing the dye. It seems that after each washing, the tin salt is rendered more and more soluble, and that the skin secretions attack the oxide of tin, and thus form a poisonous compound. This is by no means the first occasion on which the public have been warned against the danger of wearing coloured articles of clothing likely to contain injurious dyes.

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WE are glad to think that the bakers are being stirred up in the matter of their bakehouses. No class of tradesmen should more effectually and persistently see to the cleanliness and sanitary condition of their premises than bakers. Recent accounts from Sheffield reveal a worse than disgusting state of matters there, in some of the bakehouses. Bread is baked near collections of filth, and is liable to constant contamination. The time has come for rigid and frequent official inspection of these places. No conscientious baker, anxious to deal fairly by the public, will object to the inspection of his premises. It is only those tradesmen possessing filthy premises who, as a rule, complain of inspection.

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THE "London Literary and Artistic Society" recently held one of its monthly *conversazioni* in St. James's Hall, at which Mrs. Leigh Hunt Wallace discoursed on "The Martyrdoms of Modern Dress." We are glad to learn that the ladies formed the "preponderating portion" (*vide Standard* report) of the audience. Mrs. Wallace, in the language of the street preacher of *Punch*, who had just been denouncing 'Uxley and Tyndall," "gave it them 'ot,"—the "them" in this case being the ladies. Mrs. Wallace is evidently a lady wisely given to plain-speaking in the matter of dress. One such advocate of rational dress is worth a whole College of Physicians (males) in respect of the effect of unsparing criticism of the follies of fashion.

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MRS. WALLACE said that the best colour for dress—male and female, summer and winter—was white; and her conclusion is rational enough in the face of known facts about heat-radiation and absorption. Her idea that wool or silk should form the dress materials is open to objection on the score of expense. The stiff collars and stiff shirt-fronts of the male sex came in for a share of Mrs. Wallace's criticism; and, no doubt, all sensible persons will welcome any disparagement of those fearful and wonderful "dog-collars" in which our youth swathe their necks and throats to-day. But when Mrs. Wallace added that all the evils of ladies' dress are to be attributed to male admiration of the said evils, she goes, we think, just a little too far. Has Worth nothing to say about fashions? and has "feeble woman" not a will of her own, after all? Of late, indeed, most—and certainly the first—of the hostile criticisms of tight waists has come from the male side. The idea that women dress unhealthily, "not from any love of dress or fashion," but to please the male sex (we quote from the

newspaper report of Mrs. Wallace's lecture), is just a little bit too improbable to receive countenance either from sensible women or from the sterner sex. No wonder, as the reporter adds, that "there was a general smile upon the faces of the male portion of the audience at this portion of the lecture."

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THE "divided skirt" met with Mrs. Wallace's full approval. She herself wore such a skirt at the lecture, and she "defied detection." But why "defy detection" in the name of common-sense? If "divided skirts" are good things, there is no need to regard their presence as a thing to be concealed. Such a statement is a mere sop to the Cerberus of fashion, which Mrs. Wallace so loudly and well defies. Let the "divided skitters" unite and defy criticism, as well they may if the skirt is comfortable, free, and, above all, healthy.

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DISCUSSION was invited at the close of Mrs. Wallace's paper, but no critic appeared. This seemed to show either that the audience was at once with the fair lecturer, or that no votary of fashion present at the *conversazione* had the courage of his or her opinions. We certainly want more lady-lecturers like Mrs. Wallace, imbued with the courage of their opinions, and equal to the "divided skirt" or other health-measures.

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A LOCAL druggist at Hanley, we learn from a medical contemporary, recently introduced a preparation for infantile treatment, to which he gave the alluring name of "The Mother's Friend." An inquest was duly held on the death of an infant, and in the course of the evidence it was shown that on the day of the child's birth the midwife bought 'one pennyworth of "friendship," and gave the infant eight or ten drops thereof per day. The child ultimately took convulsions and died. "The Mother's Friend," it was admitted, contained opium. The proprietor said that on the previous day he had made six gallons of the "Friend," and that the greater part of this had, as he spoke, been sold. Now, the convulsions in this case may not have been due to the use of the "Friend"; but no person of sense would give either opium or a drug of unknown composition to a young child. People who follow such an unwise course have themselves to blame, if they receive the wholesome condemnation of every sensible person, lay and medical alike. We are, as a nation, too much given to pouring drugs of which we know little, into the bodies of which we know infinitely less.

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PEOPLE who are troubled with that very common and inconvenient trait of character, a short memory, have at last laid before them the opportunity of relief and improvement. Very recently, attracted by the notice which Professor Loissette's system has obtained, we paid a visit to his office, and made an acquaintance with the details of his method. We then heard sufficient of this system of forming an accurate, powerful, and lasting memory, to induce us to study under Professor Loissette. His method is physiological and scientific in the highest degree, and we can recommend it as thoroughly worthy a trial. A weak memory is a source of perpetual irritation; *ergo*, the remedy for this mental evil must, likewise, be conducive to good health and absence of worry.



## Original Essays

"Life is not to live, but to be well."—*Martial*.

### HEADACHES: THEIR CAUSES AND TREATMENT.

BY J. MAXWELL ROSS, M.A., M.B.

#### FIRST PAPER.

HEADACHES vary so much, not only in degree, but in kind, that any attempt to do more than shortly discuss a few of the more important causes and conditions which may give rise to them, would be quite out of place in the present instance. Nor is it our intention to indicate the various drugs that may be necessary for their treatment. That can only be done by the physician, who, with his case before him, observes symptoms and signs of which the patient himself may think but little (even if he be conscious of them), and thus derives hints which are of the utmost value to him in prescribing. But a knowledge of the cause, or causes, which may have produced a headache may be of importance to the patient, as well as to the physician; for in the attack made upon the cause, lies the essence and foundation of the treatment. Not only will the patient appreciate his physician's efforts in this direction, when he knows something of the nature of his ailment, but by learning to avoid that which gives rise to his suffering—if it can be avoided—he may find himself exempt from pain and trouble in the future.

The *causes* of headaches vary very greatly; but, roughly, they may be grouped under three heads—(1) those in which the blood-supply of the brain and body at large is at fault; (2) those in which some distant organ (such as stomach or liver), with which the brain is in sympathy has got out of working order; and (3) those in which there is some affection of the nervous system itself, and more especially of the great central organ—the brain. Such a classification is tantamount to including headaches under the three divisions of blood or circulation headaches, digestive headaches, and nervous headaches. It must not be supposed that every headache can be at once set down as belonging entirely to one or other of these three groups. A headache may, so to speak, lie on the borderland and partake of the characters of more than one variety. For example, it is more than probable that in all kinds of headache the nervous system is deficient in tone, and requires "bracing up," so to speak, though it is in the third group only that this deficiency is markedly prominent. As a rule, however, most forms of headache will be found to possess symptoms which enable us to class them as above.

First, then, let us consider those conditions in which the blood-supply and circulation are at fault. The brain requires and receives for its nourishment a very large quantity of the blood which circulates through the body. This amount varies in different states, a much larger quantity being supplied when the brain is working actively, as in the process of thinking or calculating, than when it is at rest, as during sleep. Sometimes we find that the blood supplied is deficient either in quantity or quality, or in both these respects. This gives rise to the condition known technically as *anæmia* (or bloodlessness) of the brain, in which that organ, deprived in part of its nourishment, becomes impoverished. The mental powers in this case are weakened, and any attempt to do the same amount of brain-work as in health may result in troublesome headache. Various causes tend to produce this want of brain nourishment. Chief among them are a feeble heart and

excessive drains of many kinds on the system. It is thus more common among women than among men. Not unfrequently, in both sexes, the evil lies in the excessive use of purgative medicines. The habit which some people have of frequently administering to themselves purgative pills by way of getting rid of the headache, which they suppose is due to an overloaded state of the bowels, may, in reality, be the cause which keeps up the pain and brain mischief. An occasional purge may, no doubt, be a good thing; but good things sometimes become evil by improper use. It is in this form of headache that sufferers find they obtain relief from small quantities of alcohol, which acts by strengthening the heart's action and dilating the blood-vessels of the brain, so that more blood is supplied. Unfortunately, the benefit received is in many cases only temporary, and alcohol unfortunately being in the eyes of far too many a drug to be desired, the dose is repeated, and probably increased. In this way it too often happens that the sufferer becomes a confirmed drunkard. One of our best and most recent writers on headaches (Dr. Day) says that "the relief afforded by alcohol in the misery of cerebral anæmia (or bloodlessness) is one of the most fertile sources of drinking habits, especially among women."

The opposite condition to anæmia—that in which there is an *excessive* supply of blood (*hyperæmia*)—may also give rise to headache. It is most apt to occur in those who use the brain overmuch. Scholars "burning the midnight oil," and something even more precious,—namely, health,—merchants toiling in their counting-houses, brokers who yield too readily to the excitements of 'Change, politicians worrying over affairs of State,—these are the classes of men most liable to suffer from this form of headache. They use their brains to such an extent as to cause excessive waste. To repair this waste, an increased flow of blood to the head takes place, which may be so great as to overwhelm the nerve-centres. Such a condition is often aggravated by the mode of life which is adopted. Irregularity is observed rather than regularity. Meals are taken at improper hours, and swallowed as fast as possible, either too hot or too cold, while stimulants are too often, and perhaps too freely indulged in. Alcohol is in itself a frequent cause of this form of headache, the reason for which is apparent when we reflect how alcohol relieves the first kind of headache by dilating and expanding the brain's blood-vessels. Thus it is that headache may, and generally does, result after a debauch. Stimulants ought, therefore, to be avoided by those who suffer from fulness of their brain blood-vessels or from "rushes of blood" to the head.

A somewhat similar condition to that in which there is excess of blood supply to the brain is that in which there is interference with the return of blood from the brain. There is here also excess of blood in that organ, but with this difference, that it is blood containing waste, and, therefore, injurious products, that too slowly passes away. The drains of the brain are practically blocked in this case, and this blocking tells backwards; for, not only are the waste matters left to do whatever harm they may, but the supply of arterial or nourishing blood is lessened, so that there is also a condition akin to that of want of brain-nourishment. The blocking or interference with the blood return may be due to causes within the chest, such as chronic bronchitis or heart obstruction. It may also be due to swellings in the glands of the neck pressing on the veins by which the blood flows back to the heart. More remediable causes are sometimes to be found in the *modes of dress*. Thus tight stays, by preventing free circulation within the chest, may give rise to this form of headache, as may also tight collars and cravats round the neck. Death has been known to



occur during a state of drunkenness from the collar and cravat becoming too tight for the neck, which is swollen by the increased size of the veins, an accident to which drunkenness usually predisposes. The return of blood is thus interfered with—so much so, indeed, that a sort of apoplexy occurs. It was to avoid this little difficulty that our grandfathers kept a small boy, or other attendant, at hand to unloosen the neckcloths of their drunken guests as they went under the table and succumbed to the influences of the symposium.

In addition to these conditions of lessening and excess of blood in the brain, unusual or diseased products—poisons we may call them—in the blood may be a cause of headache. This we observe in gout and similar constitutional affections. Rheumatism, which is akin to gout, is less apt to affect the brain than its coverings; but when these coverings are affected, distressing headache may be the result. Such headaches when they occur can only be got rid of by attending to the constitutional state, and by the cure of the primary disease which is thus seen to be their real cause and origin.

## THE GERM THEORY OF DISEASE.

### II.

In tracing the growth of the germ theory along the line of the centuries, we have seen how Needham and Buffon, experimenting upon the development of animalcular life in closed flasks, found apparent reason for the belief that dead matter could give rise to living beings. They were, therefore, believers in the "spontaneous generation" (or *abiogenesis*, as it is nowadays called) of the lower animals and plants which they found in their infusions. An infusion was boiled, thereby, as they believed, destroying all germs of life. But, after cooling, animalcules, &c., did appear in the fluid. Hence, they argued that as the animalcules could not have gained admittance to the sealed flask from the outer air, they must have been generated, somehow or other, in the substance of the infusion of hay, meat, or other material. Living things were believed to be capable of springing into existence, without the existence of parent germs or of pre-existent life.

Spallanzani, however, came to the front in 1777, with evidence which overthrew the conclusions of Needham and Buffon. He adopted a more careful method of experimentation, and showed that it was possible to so protect the flasks containing his infusions from all outward contamination, that they remained free from any development of life. Professor Tyndall has remarked that nowadays we see clearly enough that Spallanzani's experiments might have shown a development of life; for, repeated later on and elsewhere, these experiments yielded abundant life. Tyndall attributes Spallanzani's success to the purity of the atmosphere in which he worked; and Spallanzani himself gave forth to the world his idea of the cause of the freedom from life of his infusions. He assumed, and rightly, that he had been successful in keeping something out of his flasks. That something he further regarded as partaking of the nature of a "germ." In this fashion, and to this extent, Lazzaro Spallanzani may be credited with the invention of the "germ theory," of which so much is heard in these latter days.

Little advance was made after the days of Spallanzani, respecting the possibility of life arising without pre-existing life, until 1836. In comparatively modern times, in fact, the great battle of life from preceding life—the *omne vivum ex vivo* of the older schools—*versus* life from non-living

matter, was destined to be fought over again, and with the aid of new and complex methods of research. In 1836, Schulze resolved to put to the test the idea that oxygen gas—the great supporter of animal life—was absent from Spallanzani's experiments. It had been urged that Spallanzani's flasks showed no life because they contained no oxygen. Schulze accordingly half filled a flask with distilled water, and added to the water animal and vegetable matter. The infusion was next boiled, by way of destroying any living particles it might contain. Then air, purified by being drawn through vitriol, was allowed to enter the flask. The vitriol did not alter the chemical composition of the air. The oxygen remained intact, but any *organic* matter—that is, *living* particles—were destroyed by the vitriol. Hence only air, thus filtered, was allowed to gain access to the infusion. As a result, Schulze was able to show that in the presence of oxygen and of normal atmospheric air—rid of "germs"—an infusion capable of developing life would remain clear for three or four months, at least. We now know that as it was with Spallanzani, so it was with Schulze—the latter worked in a pure atmosphere, with relatively few germs. In a highly-impregnated atmosphere, loaded with germs, he would undoubtedly have had life developed in his infusion. For Tyndall, repeating Schulze's experiment, showed that some germs will pass unscathed through vitriol, and that air passes in bubbles through the fluids, thus rendering the passage of the microscopic germs perfectly feasible. Tyndall tells us that if we cause the passage of the air to be slow and gradual, so that *all* its floating matter and germs will touch the vitriol or other liquid, the infusion may be preserved from contamination by germs; but he adds the interesting remark, that if we do observe this precaution, *water itself* will act as a screen quite as effectually as vitriol. The water merely interrupts the germs; it does not kill them, but acts as an air-filter.

In 1837 Schwann entered the field of controversy with the experiment of first placing meat in a flask filled one-third with water, and of then boiling the infusion, and allowing only calcined air to pass to it. Of course, this experiment was only a repetition in another form of that of Schulze; but Schwann's flask remained uninfected with life, clear and lifeless, for months, and the flesh therein did not putrefy. Schwann held that putrefaction was caused by the chemical action of the germs contained in a something which air itself held suspended within its limits. But in 1843 came a ray of light from the distinguished Helmholtz. He showed that if we separate a putrefying fluid from a clear and uninfected fluid by a thin membrane of some kind, the latter remains clear. The membrane allows the liquids to mix, but keeps back solid particles. Hence it was argued that the solids arrested by the membrane were the cause of the contamination to which unprotected fluids were subjected. This line of inquiry was in due time popularised, so to speak, by Schroeder and Von Dusch between 1854 and 1859. These observers allowed air which had passed merely through *cotton wool* to gain access to their infusions. The wool was found to act perfectly as a filter in most cases. Fluids which putrefied when the air was admitted to them, kept sweet and pure when air gained access through the wool. But milk remained obdurate, for it putrefied even after boiling and when supplied with filtered air.

Up to this time, 1859, the evidence was rapidly accumulating against "spontaneous generation." The "germ theory," holding that all life comes from pre-existent life, seemed to be victorious. But in 1859, Pouchet, of Rouen, published his book on *Heterogeny*. This was only another name for "spontaneous generation." In that



volume Pouchet declared his belief that "spontaneous generation" was a fact of life and nature. By means of experiments conducted with apparent care and with exact method, he seemed to show that Schulze and Schwann had been in error in declaring that pre-existing life could alone develop life. Speaking of the germs which were supposed to exist in the air, Pouchet says if they were so numerous as they were alleged to be, "the air in which we live would have the density of iron," *apropos* of which remark Tyndall adds: "Had Pouchet known that 'the blue ethereal sky' is formed of suspended particles, through which the sun freely shines, he would hardly have ventured upon this line of argument." But three years after Pouchet's published attack, Pasteur, of Paris, published his paper on the living particles that people the atmosphere. A new figure had appeared on the scene, and one destined to effect marvellous results in the interesting drama, a new act of which he inaugurated in 1862.

*To be continued.*

DOMESTICITY AS A CAUSE OF INSANITY.—Mrs. M——, aged forty-four, mother of eight children, had acute mania. The husband, when asked if he could suggest any cause for her illness, exclaimed with much animation that he could not conceive any reason. "She is a most domestic woman; is always doing something for her children, is *always* at work for us all; *never* goes out of the house, even to church on Sunday; never goes gadding about at the neighbours' houses, or talking from one to another; has been one of the best of wives and mothers, and is *always* at home." The superintendent of the Hartford Retreat for the Insane (from the report of which institution this case is taken), in commenting on it, says:—"This appreciative husband could hardly have furnished a more graphic delineation of the causes of his wife's insanity, had he understood them ever so thoroughly."

DR. FARR ON INFECTIOUS DISEASES.—"Diseases of this class," says Dr. Farr, the Registrar-General, "distinguish one country from another, one year from another. They have formed epochs in chronology; and, as Niebuhr has shown, have influenced not only the fates of cities such as Athens and Florence, but of empires; they decimate armies, disable fleets; they take the lives of criminals that justice has not condemned. They redouble the dangers of crowded hospitals; they infest the habitations of the poor, and strike the artisan in his strength down from comfort into helpless poverty; they carry away the infant from the mother's breast, and the old man at the end of life; but their direct eruptions are excessively fatal to men in the prime and vigour of age."

ADULTERATION OF BEER.—A Bill for better securing the purity of beer has been issued. It enacts that every person who sells, or exposes for sale, by wholesale or retail, any beer brewed from or containing any ingredients other than hops or malt from barley, shall keep conspicuously posted at the bar, or other place where such beer is sold or exposed for sale, a legible notice stating what other ingredients are contained in such beer. Any person who sells or exposes for sale any such beer as aforesaid, without complying with the above enactment, shall be liable to a fine not exceeding in the case of the first offence £20, and in the case of the second or any subsequent offence £50. Any fine incurred under this section may be recovered summarily by any informer, and one-half of the fine shall in every case be paid to the informer. The term "beer" includes beer (other than black or spruce beer), ale, and porter. It is not proposed that the Act should extend to Scotland or Ireland.

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### III.—THE SKIN IN RELATION TO HEALTH.

(Concluded.)

BY THE EDITOR.

A "DIRTY" skin, in physiological language, may be, to ordinary eyes, a clean-looking skin. For a skin to exist in such a state as to be capable of producing ill-health, it is not necessary that it should appear dirty. The ordinary blackness or dirt we receive in the course of our labours, or through mere contact with the outer world, is readily seen, and it is usually got rid of because it is an eyesore. There are, however, more subtle forms of dirty skin which require the frequent application of the hot bath. If the skin is not frequently cleansed with warm water and soap, the sweat literally condenses on the skin-surface, clogs the pores of the skin, interferes with the healthy and natural action of the sweat-glands, and constitutes a source of disease, as well as of annoyance from the bad odour which the clothes of the person thus careless of his skin is sure to exhale. A "dirty" skin, then, may appear to the ordinary sight as a clean-looking skin, whilst in reality it is filthy in the extreme. The acids and fats of the sweat, together with the minerals exuded from the skin-glands, coat such a skin with an offensive, even if invisible, layer; and the under garments of such a person must naturally become impregnated with these secretions, even although they may be regularly changed and renewed. In proof of what has been adduced respecting the skin and its condition, the remark may be quoted that the skin of the poor, who, as a rule, rarely bathe or wash their body-surface, always seems to be clean. The word "clean," it is thus seen, may be used in two senses—popular and scientific. No skin can be truly "clean" which is not well washed, and that frequently. Hence the duty of keeping the skin thoroughly purified, is a personal duty of the very highest importance, in reference to the preservation of health.

We do not propose here to discuss the question of baths and bathing. A separate series of papers will do full justice to that very wide and important subject. All that need be urged at present is, that the frequent use of hot baths, with a good soap, is an absolute necessity for health preservation. The theory of soap, so to speak, is very simple. The oily matters of the skin will not give way before the use of water and friction alone. Soap is practically an *alkali*—such as soda or potash—combined with oil or fat. Potash gives us the soft soaps and soda the hard soaps. When, therefore, we use soap, so much of the "free" or "uncombined" alkali—and in a good soap there should not be too much of this "free" material—unites with the oily matters of the skin, and renders these matters easily removed. Strong soaps, such as the potash soaps, injure the skin. They sweep away not only the oily deposits of the skin, but they remove the upper skin-cells, and thus leave the skin dry and hard. *Crude yellow, or "common soaps," should never be used at all for the skin.* The shining, aching, sore, and tight face of the schoolboy, "creeping unwillingly to school," shows that he has had perpetrated on his physiognomy a real enormity. There is a great deal of "free" alkali in common soaps and in many other soaps as well, which injures the skin, renders it liable to crack and "chaps," and increases its liability to disease. Again, even the best and purest soaps may cause



smarting to the skin of some persons, this arising from constitutional delicacy of skin; but in all cases the *soap should be thoroughly washed off the skin*, and by attention to this rule the smarting may often be avoided.

The common idea that the face should not be washed with soap is founded upon one of those curious prejudices, the origin of which would puzzle the most learned of antiquarians to discover. A good soap can never by any chance "destroy the complexion"; but the want of purity in the skin of the face is one of the first and most frequent causes of a "bad complexion." If the face "nips" after washing, we would say, try a change of soap; or more primarily, be sure the soap is good, and then see that all the soap is washed off the face by the plentiful application of water. We ought to remember that in many cases it is not the soap that causes the skin to smart, but an unhealthy skin which resents an application that a healthy skin enjoys. *The water we use for washing the skin should not be hard.* This is a point, the neglect of which entails much misery on many persons in the way of "chapping" and "cracking," especially after exposure to cold. The hard water decomposes the soap, through the union of the lime with the fatty acid of the soap, the result being that a lime-soap, which is quite insoluble, is formed. Soft water is always preferable where it can be had; but to the use of ordinary water, which is not too hard, there need be no objection.

There remains at present a point of much importance in connection with the care of the skin, to which special attention should be devoted. We need hardly say that there is no panacea for rendering the skin beautiful and healthy. No one medicine can change a bad or unhealthy skin into a healthy one. The sooner we learn the great truth that the skin is really a part of the body, and that it sympathises strongly with ill-health in almost all its forms, the sooner will we discard all nostrums which profess of themselves to give health to the skin. We see the truth of these remarks in the course of many diseases. The skin peels off after many fevers, and even in a bad attack of biliousness or indigestion, the skin becomes dull-coloured and unhealthy. Again, there are many whose skin is naturally weak, tender, dull-coloured, or pale-coloured, and these are constitutional peculiarities, born with such persons, which do not admit of material change, though they may be bettered and improved, and often greatly modified, *by care and attention to the general health.* After all, we see that whatever tends to improve the general health, will tend to strengthen and improve the skin. Exercise, fresh air, good food, and, above all, *temperance*—these are the elements from which alone can be compounded the recipe for improving the complexion. A slight tonic will often cause the skin to assume a healthy look, when the system is low; just as after a holiday rest the dull skin of the formerly jaded and tired person acquires its healthy tone. No washes or lotions should be used for the skin; for it is, of course, to be assumed that those who use these "artificial aids to beauty" (?) are entirely ignorant of the barest elements of health knowledge. There is no excuse for the use of any skin-lotion whatever. No such preparation can possibly do good to a healthy skin; it will only intensify the diseases of an unhealthy skin; and, except for medical purposes, and under medical direction, the skin should never receive any application other than soap and water.

The skin, lastly, is the means whereby we often "catch cold," when we injudiciously expose any part of its heated surface to a low temperature. But this latter topic will best be treated when the important subject of "Colds and their Treatment" is specially ventilated in these pages.

## The Body and its Structure

"The proper study of mankind is man."—Pope.

"What a piece of work is a man!"—Shakespeare.

### NO. III.—THE BODY UNDER THE MICROSCOPE.

BY A. J. MANSON.

It is, of course, merely repeating a well-known statement to say that science owes three-fourths of its knowledge to the microscope. Without this instrument we could not peer into the inner life of animals and plants, or know anything definite concerning the parts, units, or atoms of which living beings are built up. There is not a department of physiology in which the microscope has not proved itself to be of immense value, and this because, after all, life is wrought out through the works and efforts of the most minute parts of our frames. Every act of life, it may be said, is really performed not by the action of large organs or parts, but by that of the microscopic elements of which the organs of the body are composed. For example, the liver—the largest "gland" in the body—is a manufactory of *bile*, which is necessary, as most people know, for the digestion of food. If we ask the physiologist how the liver performs its work, he will reply by means of the *cells* of which it is composed. The *salivary glands* make or secrete the "water" of the mouth (or *saliva*), also used in digesting food. When we inquire how saliva is made, we discover that it is manufactured like bile, from blood, and that the *cells* of the salivary glands are the manufacturers of this fluid. The "tears" of the eye are continually being poured over the surface of the eyeball to keep the eye moist and free from dust and other particles. The "tears," like the saliva or the bile, are formed in special glands, and in these glands the minute *cells* are the active agents. The *gastric juice* of the stomach is made in certain glands situated in the substance of the stomach itself. It is the *cells* of these glands which produce the fluid of the stomach. Even when we ascend to the brain and nervous system, we find *nerve-cells* forming the chief elements in the nervous work of the body. The outer or *grey* layer of the brain itself consists of *nerve-cells*. It is in this layer that the mystic "thought" arises, and from this layer that "thought" wings its way as "nerve force" through the body. What "thought" is or may be—and we know nothing of its nature as yet—it is certain that it is connected with the work of those *cells* which form the thinking layer of the brain. In addition to cells, we find our bodies to consist of *fibres*. Our *muscles*, or "flesh," are composed of fibres; so also are *nerves*, and *tendons* or "sinews," and the *ligaments* that bind bones together where they form joints. But, as we shall hereafter see, these "fibres" arise from *cells*—just, indeed, as the whole body itself springs originally from *one cell* forming the *ovum*, "egg," or "germ-cell." Hence it is to "cells" that we have primarily to look in the endeavour to understand how the ways and works of life are carried out.

We must, therefore, first attempt to answer the question, "What is a *cell*?" The answer to this question is of more difficult nature than might be regarded possible. Of old, scientific men fought very keenly over the definition and nature of a "cell"; some contending that it was the envelope or wall, others the contents or inside material, and others the *nucleus* or solid particle seen in the interior, which was to be regarded as the principal feature in the "cell." To-day, our ideas of the *cell* have been simplified somewhat. A *cell* varies in its exact structure, but taken in its most typical sense, we say that the word indicates a



body or part of varying, but always microscopic size, and which consists essentially of (1) a speck of living matter, or *protoplasm*; which often exhibits (2) a *cell-wall*, or envelope; and also (3) a contained particle, its *nucleus*. Such are the parts of a living cell. But as cells grow older, they may lose their living matter, and present the appearance of emptied bags or sacks, the "wall" or envelope alone remaining distinct. We must also bear in mind that the lowest animals and the lowest plants appear each in the guise of a single cell. A "yeast plant" is such a single cell, consisting of a speck of living matter, a *protoplasm* measuring  $\frac{1}{20000}$ th part of an inch across, and which grows, nourishes itself, and produces young as perfectly as do its higher neighbours. So, also, the lowest animalcules are simple masses of this living jelly, or *protoplasm*, which similarly grow and reproduce their kind, living and moving under the guise of simple cells. Indeed, the highest animal or plant may be regarded, in one sense, at least, as simply a collection of cells developed into various forms, and adapted for the discharge of varied functions in the life-history of the individual of which they form the essential parts.

It is extremely interesting to find that our bodies are thus composed of minute elements, each of which possesses a life and work peculiarly its own. The microscope has enabled us to see these cells and to investigate their structure; but it should be also borne in mind that we can never hope to become acquainted with the finer and still more minute particles or *molecules*, of which the cells in turn consist. When we speak of the *size* of cells and other microscopic objects in this country, we denote their dimensions *in fractions of an inch*. For example, the average diameter or breadth of a red globule of man's blood is the  $\frac{1}{32000}$ th of an inch—that is to say, it would take 3,200 such globules, placed in a line, to make up the linear dimensions or length of an inch. The yeast plant, in the same way, measures the  $\frac{1}{20000}$ th of an inch across, and is thus larger than a red blood globule. The commonest cells of the body (called *Epithelial cells*), seen in the skin, in the mouth, and elsewhere, vary in diameter from  $\frac{1}{8000}$ th of an inch to the  $\frac{1}{10000}$ th inch. It has been calculated that objects less than the  $\frac{1}{180000}$ th of an inch must be invisible to us; and, having regard to the powers of the microscope and to those of the eye, there seems every reason to regard this estimate as correct.

The living matter or *protoplasm*, of which mention has been made in this paper, merits special mention. This substance appears to be that which alone exhibits *life*—or, to put the matter more exactly, life is nowhere known to exist apart from this form of matter. Protoplasm is a form of *albuminous* matter. It falls, in other words, into that class of substances of which *albumen* (familiarily seen in "white of egg") is the type. In its simplest state, as seen in the "yeast plant," or in the animalcule, "*protoplasm*" is a jelly-like substance, possessing inherent powers of movement and irritability. It is also capable of assimilating food, and thus exhibits *growth*. Finally, when thus fed, it sooner or later shows a tendency to *multiplication* of its substance, and to give origin to new masses of living matter, which, in time, come to resemble itself. In a word, a speck of this curious living jelly shows all the characters of life at large. For the highest animals and plants simply nourish themselves, show powers of movement, exhibit irritability, and possess the power of reproducing their like. The higher forms of life possess "*protoplasm*," as their one living substance, this living matter dwelling within the "cells" of which they are built up. And we thus arrive at the curious and interesting conclusion, that all forms of life are fundamentally the same as regards their

living substance. Whether the *protoplasm* of the lower form is exactly that of the higher animal or not we cannot say. In chemical composition, at least, low and high forms of *protoplasm* appear identical. And whatever be the relations of this living jelly to the life it exhibits, this much is certain, that, exhibiting, as it does, the power, by itself—and even when devoid of all structure—of constituting a perfect living being, "*protoplasm*" must be regarded as certainly the "physical basis of life." For it is sober scientific truth, that every act of life is really carried out through the agency of the living matter that everywhere pervades our frame.

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THE "COMBE LECTURES" ON PHYSIOLOGY AND HEALTH. —These lectures, founded by the Trustees of the late George Combe—brother of Dr. Andrew Combe—famous as a health reformer, educationist, and phrenologist, have been delivered in various Scottish towns during the last four years by Dr. Andrew Wilson, F.R.S.E. They include instruction in the structure and work of the human body, and in the laws of health, and are fully illustrated by diagrams, models, &c. We learn from the Scottish newspapers that the lectures have been attended everywhere by crowded audiences, and this proof of the interest felt in the study of health must be gratifying alike to the trustees and their lecturer. The Combe Trustees also subsidised courses of "Health Lectures" given in Glasgow by the leading medical men of that city. It is to be hoped that the Combe Trust will extend its operations to English towns and manufacturing centres, and thus imitate the "Gilchrist Trust," in its wide diffusion of the most valuable information the people can procure.

MR. SIMON ON FEVER.—Mr. Simon reckons the deaths from these diseases at 120,000 in England and Wales alone. If we add those in Scotland and Ireland, from the same causes, the total mortality is over 150,000, every one of which is a needless death. Does this not strike you as a frightful waste of life? If we now compute that each one of these deaths represents, at a moderate estimate, thirty instances in which there is loss of health short of death, the aggregate of needless death and suffering becomes perfectly astounding, and affords a sufficiently cogent reason why zymotic diseases are specially singled out to be dealt with by stringent enactments, having for their object their prevention and, ultimately, total extinction.—*Dr. Smart.*

It is a common belief among persons who keep poultry that the shocks and tremors to which eggs are subject during transport on road or railway, affect the germ contained in the egg. M. Dareste, who has been studying this matter (*Comptes Rendus*), found, a few years ago, that in eggs submitted to incubation directly after a railway journey, the young bird very generally died; but a few days' rest before incubation obviated this. He has lately inquired into the effect of shocks on the developing egg-germ, with the aid of a *tapoteuse*, or machine used by chocolate-makers to force the paste into the mills; it gives 120 blows a minute. Monstrosities were always the result of the tremors so caused. This cause is the more remarkable that it acts before the development of the embryo; whereas the other causes M. Dareste has indicated, as elevation or lowering of temperature, diminution of porosity of the eggshell, the vertical position of the egg, and unequal heating, only modify the young bird during its production. The alterations impressed on the germ by those shocks did not disappear after rest, as in the case mentioned above; but it is not known why. A few eggs escape the action.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

By A HOSPITAL PHYSICIAN.

No. II.—WHEN FEVER INVADES THE HOUSE (*continued*).

IN this article we are to consider the various ways in which infection is conveyed from one person or place to another person or locality. It is necessary to deal with this part of our topic at this stage, because the use of *disinfectants*, and the means for ensuring the safety of those who are well in a fever-stricken house or locality, can only be properly understood when we know how infection comes, and what are the chief sources of danger from fevers and other diseases. We do not propose to say anything here about the nature of infection, or to discuss whether infection is a matter of germs, ferments, or other media. Other writers in HEALTH are dealing with the "germ theory," and with the curious and instructive history of infection at large. All we require here to bear in mind amounts simply to this: firstly, that matters pass from the bodies of fever patients (and from those affected with infectious diseases of other kinds than so-called "fevers"); and secondly, that the matters which are charged each with the poison of its particular disease, are capable of producing within the healthy body the special disease in question. "Disease germs," or matters derived from the affected person, are thus sown, so to speak, within the body of the healthy. "Infection," in this view of matters, is merely the process of sowing the seeds of disease. And it is astonishing with what regularity and sameness the seeds thus sown, produce their characteristic disorders. Professor Tyndall has a powerful passage in his "Dust and Disease" which bears out this striking fact in the nature and breeding of diseases. "The strength of this theory" (Tyndall is speaking of the "germ theory") "consists in the perfect parallelism of the phenomena of the contagious diseases with those of life. As a planted acorn gives birth to an oak, competent to produce a whole crop of acorns, each gifted with the power of reproducing its parent tree; and as thus from a single seedling a whole forest may spring, so, it is contended, these epidemic diseases literally plant their seeds, grow, and shake abroad new germs, which, meeting in the human body their proper food and temperature, finally take possession of whole populations. . . . If you sow wheat, you do not get barley; if you sow small-pox, you do not get scarlet-fever, but small-pox indefinitely multiplied, and nothing else. The matter of each contagious disease reproduces itself as rigidly as if it were (as Miss Nightingale puts it) dog or cat." Now and then, we might add, these diseases show slight variations from their ordinary type. But this latter feature only intensifies their likeness to animal and plant growths; since, as every one knows, all living beings often vary more or less from the type of their race.

A fact of immense importance in understanding the dangers and sources of "infection" is found in the statement that different diseases are propagated in very different ways, and through very varied channels. Some people speak of *contagious* diseases as opposed to *infectious* ones. They define the former diseases as those which demand *actual contact* with the diseased subject for their propagation; whilst "infectious" diseases are regarded as those

which are spread through the diseased matter being conveyed through and by the atmosphere, from which, in turn, it is inhaled or received by healthy human beings. But we shall not lay stress on these distinctions. Useful as they may be in distinguishing certain diseases from others, it is clear that there must be *contact*, of one kind or another, with disease-germs before infection can take place. We shall accordingly speak simply of *infection* as including all the means whereby diseases are spread, and because this name is that with which the public are most familiar.

Undoubtedly, the most common means by which infection is conveyed is by *direct contact with the patient*. The public know and appreciate this fact, and accordingly avoid any place or room where fever, for example, is known to be harboured. We know, as a matter of science—as well as of sad experience—that many serious diseases are spread through their matter passing directly from the diseased surface or person to the body of the healthy. For example, there is no doubt that the poison of *diphtheria* may be received directly from a patient by a person who incautiously inhales the breath of the infected person. Similarly most authorities believe that *erysipelas*, or "rose," may be propagated by actual contact. In these cases, the germs are received by the body, breathed in or swallowed; and, finally, being absorbed into the blood, there breed and produce in time the characteristic symptoms of their respective diseases. Of such a fever as *typhus fever* the same remark holds good. This fever is eminently infectious; it is one of the markedly "contagious" fevers, and is propagated usually by direct contact with the breath or skin-vapours of the patient. The late Professor Hughes Bennett was accustomed to say that an emetic or vomit, administered when the early stages of typhus fever were suspected, cut short the fever. The "vomit" in such a case was believed to clear the digestive system of the disease-matter which it had received. Of *scarlet fever*, *measles*, and *small-pox*, it may be said infection is chiefly conveyed by the breath of the patient, and, towards the close of the fever, by the scales and particles that peel off from the skin. *Whooping-cough* likewise infects through the breath and spit. *Chicken-pox* resembles scarlet fever in its sources of infection, and *mumps* are propagated like whooping-cough.

There are, also, certain infectious diseases of which the poison is conveyed to sound bodies chiefly in water, or in milk which has come in contact with infected water, or it may be—but less frequently—in a dried state by the atmosphere. Thus, *typhoid fever*—or, as it is also called, *enteric* or *gastric fever*—spreads through the matter which has been discharged from the bowels of affected persons being allowed (through carelessness in disinfection or defective drainage) to become mixed with drinking-water or milk. Of *cholera*, the same remark holds good; and *yellow fever* is also spread in this way. In such fevers, the excretions of the patient require instant and thorough disinfection, to prevent the spread of the disease. Lastly, in such infectious diseases as *pyæmia* or *surgical fever*, and *puerperal* or *childbed fever*, the secretions or fluids given off from the affected parts are charged with the poison. Such poison-materials (conveyed to other sick or ailing persons especially), give rise to the diseases in question.

Returning now to the chief means or channels by which infection is conveyed to the healthy, we may say that, firstly, a healthy person may become infected by inhaling the germs, or poison, into the blood chiefly through the lungs, or more rarely by the stomach. Typhus fever, diphtheria, scarlet fever, &c., are propagated in this way. Secondly, we may receive certain fever-poisons into the stomach, as in the case of typhoid fever and cholera, of which diseases, as we have seen, the poison finds its way



into water, milk, &c. Thirdly, certain disease poisons act through their contact with broken skin. Erysipelas is often propagated in this fashion, as also is surgical fever, &c.

The means by which the poison-germs of fevers are conveyed are many and varied, and illustrate in their mere enumeration the risks which ignorance and carelessness entail. Diphtheria and other diseases have been conveyed by incautiously inhaling a patient's breath, and by kissing the infected person. Scarlet fever has been over and over again carried far from patient's rooms and cities by means of letters. A handkerchief used to wipe a diphtheritic patient's mouth, has infected a household. Soiled linen, taken with culpable carelessness from a small-pox patient, and placed, without any attempt at disinfection, amongst ordinary clothes intended for the wash, has spread that disease far and wide from a public laundry. Carpets left in a scarlet-fever patient's room (where no carpets should be retained) after the patient had left, have, months afterwards, given rise to successive cases of scarlet fever, in persons occupying the room. Of bed-hangings (another nuisance in a fever-patient's room) as a means of infection, the same tale is told. Children allowed to go to school without a medical certificate of complete recovery from fever, spread their diseases broadcast. The modes in which fevers attack us are "legion." The two pieces of advice which should be borne in perpetual remembrance by all in relation to this matter are:—Firstly, in a case of fever or other infectious disease, *suspect everything—patient, attendants, clothes, room, carpets, bed, linen, dishes, &c.—as a source of possible infection.* Secondly, *do your best, by disinfection of every possible source of danger, to prevent the spread of the disease.*

In our next paper we arrive at the practical topic of disinfectants and how to use them.

**THE CLOTHING OF CHILDREN.**—From both the lay press and from the public platform we have heard of late a good deal as to the unhealthiness and unsuitability of the present form of female dress. Much that has been said is useful and true, although the subject has been associated with some intemperate denunciation of the costume of the day, and some violent suggestions as to the attire of the future. While sympathising in the main with this matter of dress reform, we think that some of the attention at present absorbed by the costume of the adult may well be bestowed upon the apparel of the child. In many respects the dress of young girls is more outrageous to the principles of health, and more in need of the strictures of a vigorous criticism, than is the costume of the fully-developed female.

**DANGERS OF AERATED WATERS.**—"It is our duty," says a medical journal, "once more to direct our readers' attention to the danger of common aerated waters. The aëration has, of course, no effect on the quality of the water, and as the consumer cannot judge for himself in the matter, he is exposed to most serious risk if, as sometimes happens, bad water has been used in the manufacture. There is comparatively little danger with aerated waters made in large towns, because, as a rule, the town water-supply will be used, and the town water-supply is seldom very bad. But in country places supplied by streams or shallow wells there is constant risk that the maker may have chosen the most convenient source, without regard to its quality. If the only available water-supply is doubtful in quality, it should be carefully purified before aëration, either by distillation or, at least, by prolonged boiling and filtration."

## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### DEFECTIVE DRAINS, BAD WATER, AND DISEASE.

BY A MEDICAL OFFICER OF HEALTH.

CONTINUING our quotations from the reports furnished by medical officers of health, we are able to glean many instructive hints, which show us how insanitary conditions around and about houses, inevitably entail disease and flood our land with epidemics. The house itself may be faulty in construction, and the drains may prove a fertile cause of disease of the most serious kind. But the surroundings of the house, and the state of our own and our neighbours' premises, may as powerfully conduce to disease as insanitary arrangements within the home. Here, for example, is an account of an outbreak of that terrible malady, diphtheria, at Merthyr Tydfil:—

"A serious prevalence of diphtheria has recently been observed at Dowlais, in the district of the Merthyr Tydfil Local Board. Four cases occurred in November, six in December, thirty-three in January, and fifteen in February, or fifty-eight in all. The number of fatal cases was fourteen, and the cases occurred in forty-six houses in about thirty-three streets. The health officer considers that the malady was chiefly spread by the filthy surroundings of the patients. His experience as health officer during the last seventeen years, has been that diphtheria has made its appearance wherever putrefying excrementitious matter was found, when the weather has been such as would favour the growth of the putrescent matters. In Dowlais, as elsewhere in the district, the places where putrescent matters are deposited, during the winter months especially, are numberless. On ash heaps in waste places; in back yards, where ashes and refuse are deposited; where fowls and ducks are kept; where yard drains have been either displaced or broken; where old cesspits and closets are imperfect, and where sewage gases escape. In the majority of instances, some or other of these causes of disease have been found to exist."

There seems little need to go further than the "filthy surroundings" of the patients for the source of the disease. These surroundings may not of themselves cause diphtheria, but they certainly form the soil in which the germs of this epidemic breed and propagate. By removing the filthy surroundings, and by improving the sanitary condition of any fever-haunted place, we may assume with absolute certainty our power of limiting and of checking disease. Towards the end of last year two very important outbreaks of diphtheria occurred, one at Coggeshall and the other at Devonport. Both were investigated and reported upon at the instance of the Local Government Board, and the chief details of the instructive reports, submitted by Dr. Airy and Dr. Parsons respectively, may be quoted here. Such details constitute in themselves a source of public instruction, second to none in respect of its high value and accurate nature. If the people are to become sanitarily wise, they must learn to avoid the pitfalls into which they are perpetually liable to fall; and the continual warnings which examples of epidemics present are, perhaps, the most effective in teaching us how easily disease is bred, and how readily the gravest epidemics spread, through neglect of common precautions.

At Coggeshall, Dr. Airy tells us there occurred sixty-eight cases of diphtheria, and at least five deaths, between September 10th and December 13th, 1882. The church



schools at Coggeshall are well attended, and up to November 4th all the known infected families were those whose children attended the schools in question. Hence these schools were closed by the medical officer of health, with the result that a distinct abatement of the disease followed, with, however, a few fresh cases as well. Possibly direct infection from known cases might account for the new outbreaks. After seventeen days' holiday, the church schools were reopened by the managers without consulting the sanitary authorities—a step of most indiscreet nature. "Several fresh cases soon occurred," and the disease was found extending its range to families whose children attended the chapel school. Two deaths were the result of this fresh outbreak. Both schools were then closed. The well-water of the church schools was found to be liable to pollution, and, on analysis, was declared utterly unsafe. This is only another example of an old, old story, namely, the dangers of well-water, and the necessity for frequent analysis of such water if it is continually employed for drinking purposes. The curious fact was noticed that amongst the children who drank this water when taking their dinner at school, the attacks numbered from six to seven per cent.; whereas amongst the children who went home to dinner, and who were, therefore, if anything, less liable to infection, the attacks were eight per cent. But Dr. Airy's remarks on the general sanitation of the district seem to us to explain this anomaly. A wet district, ready means of infection, and poverty, with its attendant insanitary conditions, are causes which readily enough account for the wide spread of the epidemic.

"The infection," says Dr. Airy, "was probably at the onset imported from another village called Tilkey; it was communicated to children attending the church schools, and by them it was conveyed in the main to their fellow-pupils. Coggeshall has a long history of diphtheria. In the autumn of 1875 an extensive outbreak commenced, which was investigated and reported on by Dr. Thorne; in 1876, sixteen deaths were registered from this cause, and five more followed in 1877. Then followed an interval broken only by a single death until the outbreak under consideration. The Witham Union, to which Coggeshall formerly belonged, has had a diphtheria death-rate of about 2.7 per 10,000, and Chelmsford one of nearly 3 per 10,000; whereas the neighbouring Rochford Union has only suffered at the rate of 0.8 per 10,000. Both the Chelmsford and the Witham Unions consist largely of alluvial meadows liable to floods, flanked by slopes of London clay and boulder clay, and it is possible, as regards the Coggeshall outbreak, that the nature of the locality, the wetness of the season in the autumn of 1882, and the impaired health of children who were largely suffering from poverty, produced a concurrence of predisposing causes. Had the early cases been isolated, the spread of the disease would probably have been stayed; but a hospital, which was erected in 1876, when both diphtheria and enteric fever were prevalent there, had been pulled down, and no means of isolation were hence available."

The lessons of the Coggeshall epidemic are clear and well-defined. Careful and frequent investigation of the drinking water, early separation of infected cases, and the early closure of the schools, which should not be re-opened save under medical sanction—such are the plain lessons that, once learned by the public, would save many a household from mourning, and many a mother's heart from its sorest pang.

The Devonport epidemic of diphtheria included 31 attacks, in 18 households, with 5 fatal cases. Here, some of the facts and conclusions are of the most vital public

import. The cases were firstly confined to those in good social position, free from the cares and worries of poverty, and whose chances of good health should, therefore, have been above the average. The gist of the matter is reached when we find that, "*The greater number of the persons affected with diphtheria had obtained their milk-supply from one particular dairy.*" But this dairy supplied some 500 families, including those who obtain their milk from the shop, and thus the number attacked with diphtheria formed but a small proportion of the whole. At the same time, other dairies do a large business in Devonport and Stoke, and their customers appear to have escaped altogether; indeed, all parts not supplied from the special dairy had an immunity from the disease. The farm from which the milk is derived, as also all the cows, and the families of the dairy labourers, were examined, but with the exception of a suspicious water-supply, used only for the washing of carts, nothing noteworthy was elicited. At the shop in the town the dairyman's household were said to have been in good health, *but next door there had been a case of diphtheria early in December.* And not only so, but the cans were washed in a little washhouse which communicated with a watercloset, and benzoline, on being poured into the drain at the neighbouring house, where the case of diphtheria had prevailed, was detected at this watercloset. Near this spot the cloths used for wiping out the cans were hung up. This history gives strong reason for suspecting the milk service as being connected with the diphtheria, but it does not do more, and it can hardly be regarded as proving it. The limited amount of the diphtheria compared with the number of the milk-vendor's customers may admit of explanation, for it was only the remnant of the milk which had not been sold by the milk distributors, and that which was set for cream, which came to the shop. So, also, it may only have been occasional damp cloths used in wiping the cans that were exposed to drain emanations containing the infection of the diphtheria. Dr. Parsons observes, in conclusion, that many of the persons attacked by diphtheria were constitutionally liable to sore throat, and he adds that it seems reasonable to suppose that a chronic ulceration of the throat, a ragged tonsil, or an enlarged mucous follicle, would afford more lodgment to infective material, and a fitter soil for its development, than a healthy and unbroken mucous membrane. This view, however, takes it for granted that the contagium of diphtheria is taken up into the system in the vicinity of the fauces or throat."

A parallel case to that of Devonport may be found in the report of Dr. Britton, relating to the health of the "Halifax Combined District." At Shelf, typhoid fever broke out, the disease following some indefinite illness which occurred at a dairy-farm. *Only those who received milk from this farm were affected.* The infection was probably conveyed to the milk by an open grating which was placed over a drain inlet in the place where the milk-cans were kept. The well-water was also polluted, and "other gross sanitary defects" were also brought to light. The vital importance of having dairies and farms whence milk supply is obtained rigidly inspected, of having cleanliness in all departments—and, above all, of seeing that the water is pure and the drains perfect—is fully demonstrated by the Devonport and Shelf epidemics.

DR. DOBELL ON MILK WITH RUM, WHISKY, OR BRANDY.—Put one tablespoonful of rum, brandy, or whisky into half a pint of new milk, and mix well by pouring several times from one vessel to another. Bilious persons should heat the rum before adding it to the milk.—Miss Ryan's "Convalescent Cookery."



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### REFORMED AMUSEMENTS.

BY MISS CAROLINE A. MARTINEAU.

It may be asked, What have reformed amusements to do with health? The connection is certainly indirect, but it is not fanciful. If bad amusements conduce to intemperance and vice, good amusements must tend in the opposite direction, and one of their consequences will be improved health. Therefore, a short account of one effort which is being made to improve recreation in London will not be inappropriate to these pages.

The scene of this attempt is the Royal Victoria Coffee Hall, in the Waterloo-road, formerly the Victoria Theatre, which, in the days of Alton Locke, and since, bore no good reputation. The aim of those who manage it is to preserve whatever is harmless in the Variety entertainments of ordinary music-halls, while excluding the drink, on which these halls mainly depend for their profits, and also the profanity and unseemliness which too often find their way there. They desire, when it is possible, to introduce a higher class of entertainment, but they are careful not to go faster than their audience is prepared to follow them, remembering that it is useless to offer people a kind of amusement which they have not learnt to find amusing.

An account of the usual week's programme will show the nature of the work. Saturday is the great night of the week, when the house is really well filled, and the coster-lads of the New Cut crowd into the gallery for a Variety entertainment. This includes (besides singing) acrobats, performing animals, "lightning cartoonists," conjuring, and sometimes tableaux with action, accompanied by recitation or singing. The latest was a comic subject, "Look at the Clock," from the "Ingoldsby Legends." At Christmas it was the "Girdle-duellists," a Scandinavian story. There has also been the "Burial of Sir John Moore" (a tableau to each verse of the poem) and "Jane Conquest."

The spectators are as rough as one need wish to see, but quite well-behaved. The audience of the Victoria Hall has never furnished a case for the police-court during the two years and a quarter that it has been open, though the police speak of six or eight cases weekly in the old theatre times, rising to thirty or more on Boxing-days. Yet there is reason to believe that the present audience consists of the same class as formerly, and, to a large extent, of the same individuals. Soon after the hall was opened, a lady tried to sing a ballad on Saturday, and the people at first refused to hear her. Mere singing, without the additional attraction of costume or dancing, was not what they wanted on a Variety night. But she stood her ground, and a cry arose in the gallery of "Bravo, Pluck!" which turned the tide in her favour, and she was allowed to finish her song. She would be listened to now without difficulty, and a Saturday audience lately gave an enthusiastic encore to "What are the wild waves saying?"

The coffee-tavern, which is under the same roof with the hall, furnishes refreshments, which are handed about during the performance by red-coated boys, and the consumption of cocoa and ginger-beer by the lads in the gallery is considerable. But it is not desired that there should be any appearance of compulsion to purchase temperance refreshments. If anyone wishes for a glass of beer, he can have a "pass out check" and go to get it elsewhere; but the

chances are that when he is comfortably seated in a good place, he will go without his beer, sooner than risk losing it.

On Monday and Tuesday the entertainment is the same as on Saturday; but it is given to a scanty audience. The patrons of the "Vic" have little money to spare after Saturday is over. Wednesday is a penny night, devoted to a public practice of the Royal Victoria Choir, under the leadership of Mr. Sexton, Lay Vicar of Westminster Abbey. There are about one hundred members, who pay a small fee for instruction. On Wednesdays there are frequently open competitions (for duets, solos, performances on the violin, flageolet, penny whistle, &c.), which are found to be very popular. A short selection from the Saturday programme concludes the evening's entertainment.

On Thursday there is a ballad concert, at which the performance is of a kind that would be quite beyond the means of the Committee of Management, but for the generosity of professional ladies and gentlemen in giving their services, thereby practically acknowledging that the attempt to raise public taste appeals specially to them. The audience varies greatly in number. It is seldom so large as the Saturday audience, unless Royalty or some celebrated personage is present. The Prince and Princess of Wales brought an overflowing house, as was to be expected; and Lord Wolseley found a scarcely less numerous assembly, and quite as enthusiastic in the rough outspokenness of the welcome, when he passed through the gallery, wishing to convince himself that these orderly people were really of the class he had been led to think they were.

Friday is again a penny night. The first hour is devoted to a temperance meeting, under the management of a committee, in which all shades of opinion are represented, so that the work is quite unsectarian. Then follows an hour's lecture, usually on some scientific or semi-scientific subject, illustrated by experiments or dissolving views. It was at first considered perilous to give anything instructive to those who asked merely amusement; but the result of the experiment is on the whole very encouraging. If the lecture is sufficiently simple and lively, and, above all, if the illustrations are as important a part of it as the speaking, it is well received; but the audience is an exacting one, and impatient of any pause. This is what might have been expected in those whose city life gives them so little acquaintance with nature. The first thing is to show them that there is something to admire in the world where they live; until they realise that, they are not likely to care to learn details of *how* and *why*.

Here, as in the Ballad Concerts, the Committee have been providing something beyond their means to purchase, and if the costermongers of South London have some of them begun to learn that there are more things in heaven and earth than are dreamt of in their philosophy, it is due to the gentlemen who have offered their services as lecturers. As on Wednesday, the evening concludes with a short variety entertainment.

On a recent date the whole evening was given up to a "Doctor's Temperance Demonstration," when Dr. Norman Herr and nine medical men gave their testimony in favour of temperance with a unanimity proverbially rare in the profession.

Every night, except during Ballad Concerts, smoking is allowed in all parts of the Hall; on Thursday it is confined to the gallery and back part of the pit, and it shows how effectual is the ventilation, that smoking in these parts is hardly perceived elsewhere in the house.

On Saturday from 500 to 1,000 children come, in wild delight and excitement, to an afternoon entertainment. On one occasion, when a distribution of flowers was



announced, the number rose to nearly 2,000. In summer, the afternoon performances are discontinued, the children naturally finding their way to places such as the Embankment or Kennington or Battersea Park, more suited to the season.

On Sunday evenings the Hall is let for church mission services, and services are also held there in the afternoon, so that it is in pretty constant use. It is occasionally let on Tuesday or Wednesday evenings for temperance meetings, benefits, &c., which take the place, for that night, of the entertainment otherwise due.

All the work we have described is not done without money. When the undertaking was started, it was hoped that it would be self-supporting, but it has not proved so, and the company who started it have chosen a committee to manage it for them, and to raise subscriptions for the necessary expenses. A few subscriptions have been promised for the next three or four years, so as to give time for the experience to be gained which is always so costly in new undertakings. But these promises would have to be multiplied threefold before they would cover the probable loss, and it is anxious work depending on chance donations to make up the deficiency. It is much to be wished that the work should pay its way, if possible, and the committee are striving to attain this end; but undertakings of much more doubtful utility are supported by subscription, and if the public could only hear the testimony of the police to the good done, they would not grudge their money.

One word, in conclusion, as to the building itself. It seats 2,500—some 800 in the gallery, at 3d., and 800 in the pit, at 6d. It has four stone staircases, and nine exits into three different streets. All the doors open outwards, and are fastened *on the inside* by bolts only. On full nights, the house is cleared in its usual leisurely manner in three minutes.

**FOOT-AND-MOUTH DISEASE IN CATTLE.**—About a fortnight ago an outbreak of this farmer's pest originated amongst a small lot of cattle brought from Dublin to Edinburgh, and already there is scarcely a county in Scotland in which its appearance has not been recorded. The loss to the farming and food-producing interest is immense, but it has other concern for the profession if the disease can be conveyed to our patients by the milk or flesh from the diseased animals. The teaching of the veterinary profession on the point seems to be that, if the vesicles which are so conspicuous in the mouth and betwixt the hoofs are also found on the teats or their lining membrane, the milk may be deleterious, though few cases have been recorded. To boil the milk, and afterwards allow it to cool, or to add salicylate of soda, are the methods of treatment in conspicuous cases. Mention is made of milk which becomes positively thick from deterioration, and probably medical men will agree in condemning *in toto* the use of any such food under any circumstances. The prompt action of the various local authorities at this crisis is truly commendable, and proves that when the pockets of farmers, and not the lives of their children or dependants, are at stake, decided means will be taken to stay the ravages of infectious diseases. There has probably been more money spent during these two weeks with the object of staying this serious though non-fatal disease, than has been paid during the century throughout Scotland to get rid of the most serious epidemics affecting man. By the way, we have heard of no proposal to enforce notification on the veterinary surgeon in these cases. The proposal, when property is at stake, is too roundabout.

## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**LUNG DISEASE AND THE SMOKE NUISANCE.**—A noteworthy instance of the evil influence of atmospheric impurity on the mortality from lung disease appears in the last report on the health of Salford. Dr. Tatham has been at some pains to compare the mortality from this cause in his district with that of one similarly circumstanced, but which is not exposed to the deleterious influence of a smoky atmosphere. For the purposes of comparison, Dr. Tatham selected a group of districts situated in Mid-Cheshire, not more than a few miles distant from Salford, and containing at the last census a population of 136,000 persons. During the four years 1878-81, the annual rate of mortality from lung disease was 334 per 100,000 in Mid-Cheshire, and 598 in Salford. The conditions of life in the Cheshire districts are not superior to those in Salford, with the one exception, that the atmosphere is less contaminated by smoke. The people generally are not more prosperous or better fed, and the climate is certainly not warmer, so that the extreme difference in the mortality from respiratory disease may be assumed to be mainly, if not entirely, due to the smoke nuisance. Nor does this appear to be all the mischief indirectly caused by the smoky atmosphere; and if it were possible to measure the whole extent of its influence, Dr. Tatham would probably have a far more serious indictment to bring against the atmosphere of Salford. The efforts of the sanitary authority to secure improvement appear to be of a very half-hearted nature. From the year 1875 to the date of the report, 181 notices were served upon the various steam-using firms to construct furnaces to consume their own smoke. Of these firms, 86 have complied with the notices, but the remaining 95 have, for various reasons, hitherto failed to do so. The borough contains some 727 boilers, furnaces, and forges, a large proportion of which are improperly constructed. The present means at the disposal of Dr. Tatham to cope with the nuisance are deplorably inadequate, and he is confident in the opinion that, were the smoke inspector to devote the whole of his time to his work, a marked improvement in the Salford atmosphere would be effected.—*Sanitary Review.*

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**FLOORING AS A MEDIUM OF INFECTION.**—The *Zeitschrift für Biologie* lately published a statement on the above subject from the pen of Dr. Emmerich, of Leipsic, in which it is remarked that, notwithstanding the attention paid to disinfecting walls, furniture, bedding, and clothing after illness of an infectious character has taken place in a house, the danger from the flooring, though usually neglected, is no less real than that which might arise from any of the sources enumerated. The material used in filling up flooring is often of a nature, it is urged, capable of itself producing, under certain circumstances, emanations of a noxious character. Should, however, even quite harmless materials have been used for the purpose indicated, it is argued that while a house is inhabited there is a gradual accumulation of organic substances going on which penetrate through the openings in the flooring. The constant washing tends, it is said, to make the filling damp, and in addition to this source of danger the temperature under the flooring is often higher than that of the room itself, it having been demonstrated that when the temperature of a room has been 61 deg. Fahr., that of the space under-



neath the boards has been as high as 90 deg. This has apparently been specially the case in the vicinity of a stove. This fact is referred to in connection with the theory held by Dr. Koch that a temperature of 90 deg. is necessary for the development of bacilli, the existence of which he has demonstrated. This temperature as a normal one was found by him not to exist in connection with our daily surroundings. In addition to dry-rot, which is not without an influence on health, Dr. Emmerich found in numerous samples of the filling used underneath flooring quantities of bacteria. That other substances of a noxious character were present was likewise proved by the fact that Dr. Emmerich and his assistant became ill whenever they had been engaged in protracted investigations of this kind. It is evident that if infection lurks in the flooring, the most thorough measures of disinfection which may be taken as regards other portions of a room may fail to restrain the spread of disease. This explains how illness has been found to originate in one room of a house, or even in certain portions of a room. A mouldy smell in a room after it has been washed, is said to be in some measure an indication of the existence of the state of things which has been described. It is, however, remarked that the absence of such a smell must not be taken as conclusive proof of the room being free from any such noxious influences from underneath, as earth has the property of checking the bad odour of decaying organic matter without, however, arresting the process of decomposition. The practical recommendations of Dr. Emmerich consist for the most part of suggestions for the prohibition of the employment as filling material in new buildings of any substance containing phosphorus, potash, or magnesia, it being remarked incidentally that they are notably abundant in coal-slag. For houses already inhabited, he recommends that the inner portions of the flooring should be shut off by an air-tight and water-tight substance from any communication with the air of the room itself.—*Lancet*.

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THE RIGHTS OF SANITATION.—The time has arrived in this country for the stricter enforcement of a considerable body of miscellaneous sanitary law, and for the enactment and execution of new laws of the kind. This species of law, like all other law, has to struggle against ignorance, selfishness, perverseness, and wickedness. Underlying it will be found the well-defined principles of criminal law. If a man kills his neighbour, the criminal law inflicts the same penalty on him, whether he does the killing with poison, with a knife, with a club, or with a gun; but if he does the killing by means of beer poisoned with "multum," by means of a back-house in the basement of a building let to a tenant, by means of milk containing germs of scarlet fever, by means of pork containing trichinæ, by means of tea containing a "bloom" of black lead, by means of wall-paper coloured with arsenical pigments, by means of wine "doctored" to taste by admixture of "plasterage," by means of a child sent to school bearing the contagion of deadly disease, by means of ships so crowded between decks with emigrants that each person has less than thirty cubic feet of air space, by means of a theatre so constructed that even in case of alarm of fire a large percentage of the inmates are sure to be trampled to death, by means of a hospital built in defiance of every hygienic law as a monument of civic ignorance and pride, by means of a deadly drug administered by pretentious quackery, then the enactors of statutes consider their constituencies and the elective magistrates look over their shoulders and out

of the windows to observe the direction of the popular breeze. While it is very evident that public instruction must keep pace with law, it is also evident that malefactors who snap their fingers at preaching and teaching, can be reached only by the infliction of dreaded penalties. The world can never be reformed by moral suasion alone.—*American Sanitarian*.

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DENTAL CARIES, OR DECAY OF THE TEETH.—Mr. Henry Sewill opened a recent discussion at the Odontological Society of Great Britain on the question, "Do the incontrovertible facts which we now possess as to its etiology and pathology fully account for the phenomena of dental caries?" He thought there could be no doubt that this question should be answered affirmatively. He thought it had been satisfactorily proved that caries was essentially a disintegration of tissue, due to the action of external causes. The fact that caries occurred in dead teeth and in artificial teeth made of ivory was of itself sufficient to show that the disease was not of constitutional or even of local inflammatory origin. The chief agent in this disintegration was certainly acid derived from the decomposition of food, from deranged secretions, acid mucus, &c. The predisposing causes were whatever rendered the enamel and dentine more easily acted upon by acids, as fissures and malformations of the enamel, soft, badly-formed dentine, crowding and irregularity of the teeth, which favoured the lodgment of decomposing *débris*, and interfered with proper cleanliness; and anything which favoured the formation of acid within the mouth, as a bad state of the secretions, chronic dyspepsia, &c. Mr. Sewill then reviewed the authorities on the subject, showing that Tomes, Wedl, Leber and Rottenstein, Magitôt, and others, were all of opinion that caries was the result of ordinary physical causes acting from without. Mr. Coleman replied that, if acid was the sole cause of caries, the result would be a more general action upon the teeth than was commonly met with. He had tested the state of the mouth in some hundreds of cases of acute caries, but could not detect any unusual acidity. The statement that caries in living and in dead teeth was identical, had been denied by some observers.—*British Medical Journal*.

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HOSPITAL WARDS FOR PAYING PATIENTS.—Before very long it is to be hoped that every principal hospital in London will be furnished with wards for paying patients such as have proved successful at St. Thomas's. During the last year, the forty-one beds which at that institution are set apart for patients willing to pay for hospital privileges have been in constant request. On more than one occasion, indeed, the demand has been in excess of the supply. That men with domestic surroundings will readily exchange for the formal and sometimes perfunctory service of a hospital the constant and affectionate ministrations of home is not probable. To a man living in chambers, however, who, when he hears his outer door shut, knows himself alone, whatever happens, through the entire night, and to whom the presence of a nurse of somnolent and probably bibulous temperament brings little thought of comfort, the chance of being, in case of illness, transferred to a hospital, affords a feeling of relief. There are cases, indeed, of exceptionally severe suffering, requiring special attention, in which a householder, at some expense of personal comfort, would be glad to rid those around him of severe responsibility and arduous strain. For all reasons the multiplication of these wards is to be desired.—"Sylvanus Urban" in *Gentleman's Magazine*.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

### PHYSIOLOGY IN SCHOOLS.

- 1). *Universal Series of School Diagrams: Human Anatomy and Physiology.* Three sheets. (Edinburgh: T. Ruddiman Johnston.)

AMONGST the wonders of science which are now being successfully taught to boys and girls at school we note with satisfaction that physiology occupies a prominent place. From what cause or causes the preference for physiology as a branch of instruction springs is a difficult matter to decide. We may not be far wrong if we say that the preference in question is perhaps a very natural one, if we reflect upon the interest with which the study of the human frame and its functions is surrounded. There exists in the minds of even the most ignorant a desire to know something about "self" and the structure of "self." Any opportunity which is afforded of learning something about the body is, as a rule, eagerly embraced by the least cultured. It would be strange indeed were the reverse true. Hence the frequent selection of physiology as a branch of science-culture may be best explained by a reference to the natural tastes of the people, and to the interest with which the bodily mysteries are viewed by the multitude. Again, properly and plainly explained, there exists in no field of science study such a mass of curious details as is found in physiology. For the most part the teacher has only to appeal to the common events of life to awaken an interest in the science. If a child even of very tender years is asked why its heart beats, how or why its chest rises and falls, or how it moves its fingers, the thoughts of the boy or girl are at once stimulated to inquiry. And when the teacher begins his explanations, and leads the young inquirer from fact to fact in an interesting fashion, we may cease to feel surprised that the lesson on physiology comes to the child as one of the most welcome tasks of the day. There is one source, however, which, it should be remembered, constitutes at once the support of the teacher and of the child in its science-studies. We refer to parental encouragement. If parents, as a body, would only insist that their children should be taught physiology at school, and that they should be instructed in those laws of health, a knowledge of which is better far than riches, then teachers would find the best and highest justification for redoubling their efforts to teach science, and to teach it well.

One of the difficulties which beset teachers even a few years ago, in the successful teaching of physiology and other branches of science, was the lack of diagrams and illustrations by aid of which the facts of science are made clear and patent to the youthful mind. Every teacher is not able to sketch with facility even on the blackboard, and it was absurd to look for, and impossible to find, in the ordinary school, the diagrams of which the professed scientist alone is usually the possessor. Things have bettered in this respect of late years, and the three large and handsome map-illustrations of Mr. Ruddiman Johnston, of Edinburgh, will place in the hands of teachers an admirable means of scientific illustration. We do not remember to have seen any illustrations of physiology which equal those before us, and we have certainly never seen any to excel them. Fidelity of detail, clearness of drawing, care in printing, and admirable coloration,

are each and all represented in the sheets before us.

The first sheet deals with the skeleton, muscular system, and with the digestive organs. Here we find not merely an admirably clear figure of the bony framework in full, but illustrations of the separate bones. The microscopic cells and fibres of which the body is built up are also shown; and the muscular system is illustrated, the action of the *biceps* muscle being taken as the type of the voluntary muscles. The teeth are also depicted, both sets of teeth being duly represented. On this first sheet we are presented with a beautifully-coloured vertical section of head and neck, showing the relations of the mouth and throat parts; whilst the chief digestive organs are likewise correctly and cleverly illustrated.

The second sheet is devoted to the further illustration of the digestive tract, and of the organs of circulation and excretion. Here that curious piece of bodily mechanism, the heart with its valves, is shown, and we can well imagine the interest with which a class of boys or girls will listen to the teacher's description of the heart from these diagrams, and thereafter pass, as they should certainly pass, to see on a sheep's heart, dissected by the teacher, the parts shown in the diagram. The structure of the lungs, skin, and kidneys is given in the second sheet.

The third sheet deals with the nervous system and the organs of sense. Very accurate views of the brain are shown, and we are especially pleased to note that a ground plan or simple diagram of the brain is given in Fig. 13 of this sheet, by way of placing plainly before pupils the outlines of this complex organ. The eye is capitally drawn, and the adjustment of its lens to distance is made very clear by means of an excellent diagram. The spinal cord and its structure, the ear, and the tongue are all duly represented, the selection of figures and subjects reflecting the highest credit upon the author and publisher.

There can be no question that the multiplication of such means of instruction is certain to result in the direct encouragement of science-education in our schools. With these diagrams—which, we observe, are sold each at a very moderate price—at hand, no teacher can fail to make even abstruse facts clear to young children.

The excuse that science needs an amount of illustration which teachers are not prepared to produce, can no longer be urged against the study of science in schools. We heartily commend Mr. Johnston's diagrams to the notice of school boards, teachers, and all interested in the promotion of useful knowledge. We must not omit to add that each map is accompanied by an explanatory handbook, and the maps are printed in two series—one possessing the names of the parts printed on the figures; the others having merely reference letters, and being thus adapted for the examination of pupils.

**CURIOUS AFFECTION OF THE SKIN.**—Twenty-six labourers, according to a German medical journal, half an hour after they had carried sacks of barley, were seized with violent itching on the upper part of the body. On the neck, back, and legs a skin-eruption developed. The itching was increased by cold-baths, which several of the men took, but was immediately removed by washing with a one per cent. solution of carbolic acid and tepid baths. In the dust which was riddled from the barley the remains of mites were found; in the barley itself, the same form of mite was observed, which Robin has described as a species of *Oribates*.



## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

This department of HEALTH is intended to serve as a means of eliciting information on all matters pertaining to Sanitary Science. Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply. We ask the indulgence of correspondents owing to the large number of communications received each week, and many of which necessitate considerable research to ensure satisfactory replies.

Communications intended for the EDITOR to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

Books intended for Review, should be addressed to the Editor of HEALTH, 74, Great Queen-street, London, W.C.

Medical Officers of Health and Sanitary Inspectors will oblige by forwarding their Reports to the EDITOR. Reports of meetings of Sanitary Societies, and abstracts of papers bearing on Health topics, should also be addressed to the EDITOR, at the office. Descriptions of new Sanitary Inventions, Sanitary Appliances, and specimens of apparatus or articles bearing upon and used in sanitation, should also be sent, prepaid, to the office, and addressed to the EDITOR OF HEALTH, 74, Great Queen-street, Lincoln's-inn Fields, London, W.C.

TO CONTRIBUTORS.—The staff of contributors to HEALTH being large and fully equipped, the Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

## LETTERS TO THE EDITOR.

### INSANITARY HOUSES.

SIR,—Your remarks on "The Englishman's House" are well-timed. I suspect you will be inundated with examples of cases resembling that described by Mr. Kesteven. In my own experience I had once to deal with an allied case, in which a main house-drain had been allowed by the builder and workmen who built the house to end below the surface in an adjoining field, into which, of course, the sewage in due time strained. The drain had to pass through this field on its way to the main sewer. But the genius of the workmen (or shall I say the rascality of the builder?) was equal only to making the drain end blindly, and to save some twenty feet or so of further piping (for which, by the way, the builder was duly paid), the drain was allowed to end in the middle of the field. Illness in the house led to the drains being overhauled, when the above bright example of British building ingenuity was discovered. You remark in your "Notes," on the frightful condition in which Paris has of late been living. I wonder if the French Commission, at present being *fêted* in London, and which is engaged in seeing the excellences in our sanitation, will be shown the ways and works of the "jerry builder."—I am, yours, &c.,

April 19, 1883.

DRAIN REFORM.

SIR,—Your article on "The Englishman's House" should certainly have the effect of calling attention to the survey of houses whilst building is going on. If drains are allowed to run beneath our rooms, and to be utterly unfit for the work they are meant to perform, we must assume either that builders do not know their work, or that they wilfully "scamp" it, or that the survey and inspection of houses is a farce, and that the surveyors do not know, or do not attend to, their business. Where are we to look for a remedy? HEALTH will, at least, discharge a public duty, by persistently calling attention to this glaring evil.—I am, yours, &c.,

London, April 14, 1883.

A. F. BAILEY.

### FEVER INFECTION.

SIR,—A little daughter of mine recently sickened, and, on sending for the doctor, he pronounced a rash which we discovered on her chest to be that of scarlet-fever. Alarmed for the safety of other members of my family, and knowing our drains were in good order, I made strict inquiry concerning the source of infection. After some trouble, I ferreted out the source of the disease in a little girl, who had been a close companion at school of my child, and whose sister was in bed at home with scarlet-fever. The parents of these children are educated people, but that, nevertheless, their sanitary code is very deficient becomes clear, when they are capable of sending to school, from a fever-infected house, a little girl who, possibly, was allowed to see her ailing sister. At any rate, I feel convinced that the infection came from this source, and I need not add, I have taken care that the further attendance at school of the child from the infected house has been dispensed with. The need you declare, for educated persons, as well as for the poor, to possess a common knowledge of health-laws, is well illustrated by this case. My child is now in a hospital (attended by her own nurse); my house has been fumigated by the authorities of the town in which I live; the child's bedroom has been disinfected and re-painted—but I have had to incur all this expense, to say nothing of my natural anxiety, for the culpable carelessness of others. The sooner we have people roused to a sense of what they owe to their neighbours in this matter, the better. The shoe pinches in a very salutary fashion when fever is brought into one's own dwelling by the ignorance or stupidity of those from whom we expect better things.—I am, yours, &c.,

April 16, 1883.

K.

## QUERIES AND ANSWERS.

### I.—GENERAL QUERIES AND ANSWERS.

A. L.—No: the locality named is too cold for a consumptive patient. You must go further south. Your physician will be able to give you all necessary information about Davos.

C. C.—You make a great mistake in supposing that a knowledge of the laws of health is easily acquired or generally possessed even by cultured persons. If the well-to-do were free from preventable diseases, your argument might hold good. The poor are subject to many diseases, in virtue of their life and hardships, but the rich, who should possess a knowledge of health, are well-nigh as deficient in sanitary information as the poor.

ELSIE.—Yes, we shall always be glad to answer any queries regarding "Health Resorts." Kingstown, near Dublin, is situated eight miles south of that city. The air is bracing, but the climate is not said to be so suitable for invalids as that of Queenstown. North Berwick, in Haddingtonshire, N.B., is within easy distance of Edinburgh by rail. Drem Junction, for North Berwick, is on the main line of the East Coast route, between King's Cross and Scotland. Air of North Berwick bracing. There are splendid links for golf.

P. HAY.—We have no knowledge of the firm. Apply to some wholesale druggist.

MATER.—"Heredity" may be defined as the law of "like begetting like." Mr. Darwin has a theory of *Pangenesis*, which you will find detailed in his "Animals and Plants under Domestication." This theory is not universally accepted by the biological world. We shall publish a series of papers on "Heredity" at a future date.

T. J. S.—No; so far as we are aware, there is no provision made for the case you mention.

B. DILL.—Holmes on "Voice Production" (Chatto & Windus) will give you the information you require.

G. MULHOLLAND.—There should be no difficulty in obtaining HEALTH in Dublin. Address the publishers in case of difficulty in receiving the journal in good time.

ARTHUR BAKER.—We propose to have articles on food adulteration at no distant date.

SYBIL.—Most hair-dyes—and certainly all the cheap ones—contain lead. Cases of lead paralysis have been known to result from their use. By adding iodide of potass to the dye, a yellow iodide of lead will be thrown down, if the solution contains that mineral.

CAPILLARY.—There is a process known to specialists for eradicating hairs growing on warts and other situations, by means of electricity—at least this process has been successfully tried in cases of trichiasis—a disease of the eyelashes, in which they are inverted towards the eye. It is possible, we should say, to apply the same process to the destruction of unsightly hairs in other situations.



CHARLES THOMSON.—We know nothing of the preparation to which you allude. Most medicines given in the affection you mention contain opium.

X. B. O.—Boracic acid is obtained naturally from some Italian lagoons, the best known of which are situated in the province of Pisa.

J. TROTTER.—There has been a conviction obtained against a farmer who sold milk taken from cows infected with foot-and-mouth disease. The case was tried at West Bromwich Petty Sessions lately. We understand that veterinary surgeons are not agreed as to the evil effects on the milk of this disease. In some cases the milk secretion is arrested by the complaint. We think it wisest to err on the safe side, and to avoid either selling or drinking the milk of animals affected with a constitutional complaint or with fever of any kind.

W. K. PARKES.—If you will read the note on tobacco again, you will see that nicotine is spoken of as the liquid *alkaloid* of tobacco, not as being *alkaline*, as you declare in your note. Thanks for your kind wishes.

## II.—SANITARY QUERIES AND ANSWERS.

F. SAYER.—Milk analysis, as you remark, is a very difficult topic on which to pronounce an opinion. Certainly milk adulterated with 20 per cent. of water is very far from being the genuine article. Recently, convictions were obtained for such practices in London, the adulteration being as high, in one case, as 34 per cent. You would find a lactometer useful.

ALEX. SLADE.—Dr. Scott's "Self-regulating Hot-air Disinfecting Chamber" would suit the purpose you mention. It is in use in a large number of institutions. Address "The Dublin Sanitary Works," 10, Dawson-street, Dublin.

CEMETERY OFFICER.—There are undoubtedly risks attending the opening of graves. Symptoms of blood-poisoning have been noticed to occur in persons so employed. Thorough disinfection and the free use of disinfectants during the operation are to be commended.

BETA.—We do not know of any firm which undertakes the work you mention. Try a wholesale chemist.

GOD'S ACRE.—We understand the cemetery to which you allude will shortly be closed. As a general sanitary rule, residence near or adjoining a cemetery is to be avoided. But the safety of such residences will largely depend upon the nature of the cemetery soil. Where an unsuitable soil exists, then insanitary results may accrue to the dwellers near, from the "earth to earth" principle of burial being impossible. The soil of the cemetery you speak of is reported to be good, as regards burial purposes; but we would advise you, if in any sanitary doubt, to remove from, or to avoid residence near, any burial place. The anomaly of having the dead amongst the living is one of the sanitary monstrosities of our day.

## III.—MEDICAL QUERIES AND ANSWERS.

CLARENCE HOLT.—The affection from which your relative is suffering is called *oæna*. The discharge from the nostrils is always fetid in this complaint. In the case to which you refer, we suspect there is constitutional weakness of some kind, for which only a medical examination can satisfactorily discover a cure. The treatment of the disease itself consists in the employment of the nose-douche, that of Dr. Thudichum being probably the best. The solutions employed to syringe out the nose vary; a weak solution of common salt is often employed, and Condy's fluid and carbolic acid, used diluted, are also recommended. In some cases, the vapour of calomel or bisulphide of mercury has been inhaled with good result.

GEORGE S.—Malingerer is the term used to indicate the practice of wilfully and knowingly imitating the symptoms of disease for any purpose. It is, perhaps, best seen in prisons, and is also practised occasionally in the army and navy, where men assume or produce diseased conditions for the purpose of securing relief from duty.

MOTHER.—A good drink in fever is made by adding one drachm of chlorate of potass to one pint of water. This should be partaken of daily, in scarlet fever especially.

E. J. B.—If the disease is ringworm, use an ointment of the following kind: Carbolic acid, pure, two drachms; glycerine, one ounce. For a child of nine or ten years, this ointment is well adapted; but for a child of three or four reduce the ointment to half the strength.

K. T.—(1) A dangerous practice. (2) Reading in railway carriages is invariably condemned by oculists. The use of a white card placed under the line which is being read, and shifted down-

wards below each line of print as the page is read, is said to be a preventive of ill effects. The card simply steadies the vision somewhat; but reading under such circumstances is undoubtedly injurious to the sight.

HOPEFUL.—Yes; the affection you mention is hereditary, and is undoubtedly transmitted from parent to offspring. The disease, if taken in time, is curable; but you should be very careful to consult a qualified physician who has made the subject his special study. The great army of quacks preys upon such cases and magnifies and distorts the evil.

S. A. (Edinburgh).—Your case is one in which we should decidedly advise consultation with a physician. The symptoms you describe are not at all inconsistent with dyspepsia or indigestion. Try to cultivate regularity in your meals, with rest after eating. Take *Æsculap* Mineral Water in small doses. Your system is evidently somewhat low, and for a tonic try Fellow's Syrup of the Hypophosphites. But an interview with a physician will reassure you. Your work is evidently too hard. By all means try relaxation in your business.

W. YAM (Stoke Newington).—Your description of symptoms is not very full, nor do you say how long you have suffered. Try the effect of occasional warm baths before going to bed, and twenty grains bromide of potass, twice daily, between meals. Any druggist will compound a dozen bromide of potass powders, each containing twenty grains. You suffer possibly from a rheumatic tendency; rheumatic pains are always worst at night. Write again, if affection continues.

A WORKING MAN.—Your symptoms are apparently those of a nervous disorder, which will require a course of medical treatment. Your best course is to apply for treatment at the Hospital for Nervous Diseases and Epilepsy, Regent's Park, N.W. In all probability a little time, rest, and appropriate treatment will completely cure you. Persons engaged in your trade are liable to such symptoms from the constant jarring to which they are subjected.

SILFAX ERRAVI.—You are perfectly right in saying that cases of the kind you mention simply feed the quacks. Your case is in nowise a singular one, and is susceptible of cure. We should recommend you to see a respectable surgeon, as he may be able to detect some source of irritation. The treatment is duplex. The physical part thereof consists in attention to the general health, state of bowels, &c.; in the use of tonics—no special medicines are prescribed—and in the employment of cold baths, unless contraindicated from any delicacy of the chest, with the administration of 15 grains of bromide of potassium at night. The diet should be non-stimulating. Exercise should be indulged in wisely and moderately; fresh air and early rising are also two features you will do well to attend to. As regards the remaining part of the treatment, the advice to cultivate cheerful society, and to occupy the mind healthily and fully, may be taken as summing up the list of items. Should these means fail—and they rarely, if ever, do fail to effect a cure—you must be treated surgically.

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The terms of Annual Subscription to the weekly numbers of *HEALTH* are as follows:—

	s.	d.
To any address in the United Kingdom .....	10	10
To the Continent, Australia, New Zealand, South Africa & Canada ..	13	0
To the United States of America .....	\$3.25	or 13 0
To the East Indies, China, &c. ( <i>via</i> Brindisi) .....	15	2

All subscriptions are payable in advance.

*HEALTH* will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publisher, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# • HEALTH •

## A WEEKLY JOURNAL OF SANITARY SCIENCE.

CONDUCTED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, MAY 4, 1883.

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### Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THOSE who are interested in the improvement of working-class dwellings must have read with satisfaction the announcement of Sir William Harcourt in Parliament that a satisfactory scheme has at length been prepared for the erection of houses in London on the ground cleared under the Act of 1875. The delay in adjusting this important matter, it was explained, arose from the fact that two schemes submitted to the Home Office by the Commissioners of Sewers were pronounced unsatisfactory. April 10 saw a third scheme submitted, and Sir William Harcourt having approved thereof, the new sanitary scheme will now, it is hoped, proceed towards fulfilment.

\* \* \*

WE have heard more than enough of the insanitary conditions of those dwellers in one-roomed houses, on whose behalf Mr. Bright lately made an eloquent appeal at Glasgow. But improvements in the direction of the sanitary reform of buildings move very slowly. We can only hope that the scheme above alluded to as having received Government sanction, will prove the forerunner of many similar movements elsewhere.

\* \* \*

A MATTER which exhibits how far behind the greatest city in the world may be in respect of sanitary appliances, was recently ventilated in the shape of a cry for necessary mortuary accommodation in London. The lives of City poor are destitute enough of health-surroundings, but it is worse than lamentable to think of the dead poor being allowed to remain along with the living in rooms insufficient to accommodate anything like the number of persons who inhabit them. There is a crying need for the establishment of mortuaries in every parish. These should be plain, substantial, well-ventilated buildings, fitted with all the means for thorough disinfection for the safe reception of fatal cases of fever. Thence would be conveyed the bodies of the poor, and of all other persons whose circumstances did not permit the discharge of death-rites and funeral duties at home.

How greatly the establishment of such mortuaries would diminish risks of fever-infection, everyone is able to realise who reflects on the huddling together of the poor in their squalor and destitution. Dr. Hassard, of London, recently examined in the Strand parish the body of a person who died of heart-disease, and had to conduct his examination in an attic room, ten feet long, five feet wide, very dirty, and destitute of furniture. Prior to this, Dr. Hassard said he had had occasion to examine a body which lay for days in a common lodging amongst the tenants of the house. The Strand parish, large and populous as it is, does not possess a public mortuary. Mr. Langham, the Coroner, did not use language a whit too strong, when he described this state of matters as constituting a public scandal. Where is the Local Government Board?

\* \* \*

THE fight regarding the nature of the *bacillus*, or microscopic living particle found in consumption and in allied diseases, still rages fiercely on the Continent. Dr. Koch maintains the high importance of the *bacillus* as a main factor in causing the diseases in question. Dr. Spina, on the other hand, is inclined to differ widely from Koch's conclusions. We seem, as yet, very far from a decisive conclusion regarding the exact part which these living particles—probably of plant nature—play in producing such diseases as consumption and tubercle at large.

\* \* \*

IT is as well to know that, in England, the consent of the Attorney-General is necessary before action can be taken against those who send children infected with scarlet-fever to mingle with other and healthy children in Board Schools. Some Member of Parliament should see to this at once. The *Lancet* is within the mark when it says that "such a state of the law is a protection to those who break it."

\* \* \*

"THE air is full of sanitary numbers," to parody W. S. Gilbert in one of his operatic snatches. Everywhere around us there are reports of exhibitions to be held, both in London and in the provinces. So much the better for health and well-being. People who begin by showing mere curiosity about health exhibits, generally end by becoming staunch disciples and apostles of health-science.

\* \* \*

FIRST on our list comes the "Technological, Industrial, and Sanitary Museum of New South Wales," which, we learn, fulfils in the Antipodes the functions of the Parkes Museum of Hygiene in London. Mr. Mark H. Judge, of 8, Park-place Villas, London, W., will afford full particulars to intending exhibitors; and, as the museum will prove a means of stimulating business and traffic in sanitary affairs between the mother country and the colony, the attention of investors and others may be called to the announcement just made. The Government forwards, free of charge, all exhibits accepted by the Committee.

\* \* \*

WE have also before us the prospectus of the "Sanitary Assurance Association," the object of which is to apply the knowledge and experience of medical men, architects, and others, to the improvement of drainage, ventilation, &c. The income of this commendable association is applied solely to the above end; and as members and subscribers have their houses and premises examined and reported on by competent officials, the advantages of membership are great and lasting. The fees and terms are very moderate; the honorary council includes names eminent in every department of science, and the offices are situate at 5, Argyll-



place, Regent-street, London W. We are glad to make existence of this association widely known. No community more urgently than London and suburbs, demands the services of such an association.

♦ ♦ ♦

An exhibition well worthy the attention of sanitarians is the "Parkes Museum of Hygiene," which will be opened in its new premises, Margaret-street, Cavendish-square, W., on the 26th of May. The late Dr. Parkes could have no more fitting memorial than such a collection of sanitary apparatus. Hygiene owes much to his labours, and we need not dwell upon the advantage of possessing a permanent metropolitan museum of the character and kind illustrated in the Parkes's collection.

♦ ♦ ♦

OUR readers, both "fair and stern," should bear in mind that the Exhibition of Sanitary Appliances, Dress, and Decoration, to be held under the auspices of the "National Health Society," is set down to open on June 2nd, at Humphrey's Hall, Knightsbridge. There are no less than seven classes of exhibits, and we anticipate the formation of a most interesting collection of recent improvements in hygiene. Further details can be had on application at 44, Berners-street, Oxford-street, London, W.

♦ ♦ ♦

THE Duke and Duchess of Westminster are bestirring themselves heartily in sanitary and social reforms. We would remind our readers that an open meeting of the National Health Society, at which the Duke of Westminster will preside, will be held at Grosvenor House on May 9th, at five o'clock.

♦ ♦ ♦

THE Rational Dress Association holds its exhibition on or about May 15 in the New Princes' Hall, Piccadilly, W. The list of prizes offered for competition is large and varied, and the inventive faculties of both sexes ought to be stimulated in the endeavour to improve upon the dress of to-day. Mr. Flack, 74, Great Queen-street, W.C., is the business manager of the Rational Dress Association's exhibition.

♦ ♦ ♦

WE hear also of an Exhibition of Sanitary Appliances at the annual meeting of the British Medical Association at Liverpool, on July 31. This latter exhibition should prove of high interest, especially to the medical profession.

♦ ♦ ♦

THE Sanitary Institute of Great Britain, it should be remembered, holds its annual meeting this year at Glasgow, beginning on Sept. 26. The exhibition of sanitary appliances in connection therewith will remain open till October 20.

♦ ♦ ♦

SUCH is the list of work which health-reformers are attempting. It is not too much to say that these are cheering signs of our day and generation. If the public are led to take an interest in health-knowledge through such exhibitions, there will be effected a vast amount of real and lasting good in sanitary advance. We shall endeavour to note, in due season, whatever is interesting in the exhibitions just named.

♦ ♦ ♦

THE International Fisheries Exhibition opens in London early in May. The relations of this exhibition to health are clearly seen when we reflect that fish is one of the most nutritious, easily digested, and wholesome of foods. If we can cheapen and increase our fish-supply, we shall certainly aid the national health and weal in a food-aspect.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### MR. BRIGHT ON THE HOMES OF THE POOR.

MR. BRIGHT, in the course of his address to the students of the University of Glasgow, as their Lord Rector, mentioned, in an incidental fashion, but with eloquent emphasis, the case of the dwellers in "one-roomed houses," and commended their claims to the notice of health-reformers, and of those who interest themselves in the improvement and elevation of the masses at large. The appeal thus made on behalf of the poor and their defective house accommodation, bears very closely upon the subject of health. The whole question, in truth, is one of sanitation. It begins and ends with health-questions; and all the moral influence in the world can have no effect in improving the condition of the poor until the more pressing social and physical problems of their existence are solved. As a leading organ of public opinion in Scotland remarked, when speaking of Mr. Bright's address, and of his remarks on the house accommodation of the poor, "It is eminently necessary to divest the question of cant; and in approaching the classes chiefly interested, all idea of a condescending patronage must be laid aside. It is the huge majority of our citizens with whom we have to do in this matter, and the amelioration of their lot is not to be accomplished by transcendental schemes elaborated in Presbyteries or Synods, but by educational and political agencies which begin by dealing with the physical hindrances to well-being now surrounding wage-earners as a class. It is, in fact, a health problem; and what is wanted at the hands of the Legislature is a further development of energetic sanitary measures, so that the people may have pure air, less huddling of the masses, wholesome food, and rational amusements. The polluted atmosphere of our lanes and alleys is inconsistent with—indeed, prohibitive of—cleanliness, temperance, morality, and all that goes to constitute our boasted civilisation. The huge rookeries around us defy the best influences of religion; and the exertions of philanthropy are lost upon the feeble creatures who constitute alike the residuum and the opprobrium of our working classes. There is no inspiration capable of raising to a life of virtue, of happiness, and probity, the masses whose physical state is the result of ignorance and the neglect of the simplest health precepts, while also the cause of the pauperism and want so abundant around us. The constant lassitude and weakness, at first depending on the immediate surroundings, soon assume so fixed a condition as to become hereditary; and hence not only do disease and death, with all their train of woes, find here their victims ever ready, but the ordinary health level is unable to cope with the temptations and trials so numerous in the life of the toiler. When the average physical condition is low, we need not expect high intellectual or moral development. Unwholesome surroundings beget ill-health, and this in turn induces poverty, intemperance, and crime."

Mr. Bright, in referring to the subject of the homes of the poor, had evidently in his mind's eye the peculiar conditions under which the Scottish poor are lodged and housed. Indeed, he stated as much in the course of his address. In an English town or city the poor are housed in ordinary tenements. The houses are each self-contained as a rule, and although they may be divided into lodgings of "one room" or more, the dwellings are of the ordinary



type we see in English towns at large. Low in roof they may be; defective in sanitation they often are; unhealthy in their surroundings they unquestionably are; whilst open space about and around them there is none. But south of the Tweed the peculiar lodgment of the Scottish masses is unknown. The visitor to Edinburgh, for example, who, strolling along that classic promenade—Princes-street—chooses to cast his eyes across the valley to the Old Town, sees the backs of the gigantic “lands,” or blocks of houses that constitute one side of the Lawnmarket and High-street of the ancient city. He can count, from basement to attics, ten, eleven, twelve, or thirteen flats or “stories,” towering above the valley below, and when he passes to the Old Town to investigate the constitution of these huge “lands,” new and unknown phases of life begin to dawn upon his view. These giant blocks that have reared their massive fronts for centuries, and whose twinkling lights, shining across the valley in the darkness of the night lend an air of romance to the historic city, are found to present health conditions and phases of home life that can only be paralleled in Glasgow, perhaps, but are certainly unknown in the south. In the ordinary and modern “flat,” imitated in a few cases in London, and prevalent in Paris, each landing (or “flat”) contains one or two houses. The common stair, giving access say to a “land,” or block of four flats, forms a means of communication for eight families. Two households dwell on each flat, and each is shut off completely from all its neighbours by the house-door, which opens from the landing that constitutes the first, second, third, or fourth “flat,” as the case may be. Thus we find eight domiciles securely housed in one block; and when the outer or street-door of the block is shut the communication with the external world is in its turn closed.

That this “flat” system possesses its advantages, few will deny. Good houses can be had through the operation of this system at a moderate rent; and although the “common stair” may be in itself a disadvantage, and long flights of steps to a “top flat” a serious inconvenience, yet that the flat system finds acceptance in the eyes of the Scottish middle classes is an undeniable fact. The population of a Scottish town has therefore to be regarded, not merely in its distribution over a square area, but in its “cubic” aspect as well. When we pile house above house, and find a people dwelling overhead in the air, we can readily see how the density of a population becomes enormously and rapidly magnified. The “flat system” amongst the middle classes of Scotland contains in itself nothing prejudicial to health—if, indeed, we except the facts that there is close contact of the units through drains and stairs, and that an epidemic once lodged in a land or block may spread readily through the unavoidable intercommunication that exists under such a system. As we descend in the social scale, however, we begin to discover how powerfully the intensified gregariousness of the Scottish system must affect health. In the homes of the working classes, we find that one flat, or landing, may contain four houses, instead of only one or two, as in the better class dwellings. As we go lower still, and as we come to the “rookeries” of the Lawnmarket, High-street, and Cowgate, in Edinburgh, and of the Saltmarket and other localities in Glasgow, we see how the subdivision proceeds well-nigh in geometrical ratio. On each flat of the thirteen or so to be found in a large Scottish block or “land,” is found a passage, usually dark and ill-smelling, with an open sink close by. The passage leads to right and left from the landing. In olden days, doubtless each flat contained two houses; but to-day, the various “rooms” that open off the passage, to the number, it may

be, of six or seven, accommodate each one family—and sometimes a family, *plus* its lodgers. Regarding human units packed in such a fashion, multiplying together flats and rooms, and then calculating the families and the individuals therein comprised, it may readily be imagined what the word “overcrowding” means when applied to a Scottish “land.” When fever breaks out in such a domicile, medical officers of health, dispensary physicians, city missionaries, and the visitors of the poor, know only too well how the surroundings favour its spread. Dr. Russell, of Glasgow, told us not so long ago, in one of his health-reports, how an epidemic of typhus fever—the disease, *par excellence*, of overcrowded slums—spread from a court in Stockwell-street, until fourteen cases of the disease could be traced to the want of precautions in dealing with the originally infected subjects. “People living in overcrowded houses,” says Dr. Russell, “and whose personal habits are uncleanly, are magazines of such diseases as typhus.” It is in the lands and blocks, inhabited by the dwellers in the “one-roomed houses” to which Mr. Bright referred, that typhus fever appears when the conditions are favourable for an outbreak.

The conditions under which the poor are housed are practically those which beget disease and death. The remedy seems clear enough. We want better homes for the poorer classes; but we also want the people to be educated in the laws of health. You may build a “Hygeia” to-morrow, but what will be the value of your sanitary perfection if the tenants of your model city are careless and ignorant of health conditions? Better homes we demand for the poor; but we also require the knowledge which alone can benefit the poor—how wisely to build and to use these homes, and how to make life what it should be—what it might be—for rich and poor alike, a period both of healthy and happy enjoyment.

## HEADACHES: THEIR CAUSES AND TREATMENT.

By J. MAXWELL ROSS, M.A., M.B.

### SECOND PAPER.

WE may now pass to consider the second variety of headaches, namely, the *sympathetic* group, or those in which some distant organ is irritated, and whose irritation by sympathy affects the brain. The best example of this form is the *bilious* or *dyspeptic* headache, sometimes also known as the “sick headache” (but under this term not to be confounded with the more terrible *migraine*), in which the digestive organs are primarily at fault. The brain sympathises with the stomach or liver in its affliction, and thus comes to suffer itself. The chief cause of this malady is to be found in those errors of diet which lead to indigestion or dyspepsia. Examples of these causes are unwholesome food, late suppers, hasty and inefficient mastication, and the continuous drinking and wine-bibbing to which some people give way. Such causes tend to lower the vital tone, and may cause sympathetic head symptoms. This explains why it is that in this headache a free vomit or purge gives relief quickly. But in this connection it is well to point out that the too free use of purgatives may be a cause of the dyspeptic, as we saw it to be provocative of the bloodless (or anemic) headache. The frequent administration of aperients not only drains the system excessively, but weakens the digestive system, and throws it into such a condition that headache is readily lit up.



In the third variety of headache, it is the *nervous system itself* which seems to be chiefly at fault. Examples of this form are the organic, nervous, and neuralgic headaches. Of the organic headache little need be said here. It is not the headache itself which is of importance. The cause which gives rise to it is some important change within the skull, which may sooner or later cause other symptoms indicating the evil and grave nature of the change. Such headaches often precede insanity. The *nervous headache* is more commonly known as *migraine*, or, from the nausea and vomiting which may occur during an attack, as "sick headache." In this respect it may be said to be the converse of the bilious or dyspeptic headache, and shows that if the brain sympathises with the stomach, the stomach may in turn sympathise with the brain. From not discriminating properly between the two forms of sick headache, doubts have been expressed as to the nervous origin of "migraine;" and the nausea and other dyspeptic symptoms have been held as indicating disorder of the stomach or liver to be the primary cause. This is not the cause, but the consequence; and vomiting or diarrhoea is not found to give much relief. Dr. Liveing's view that there is an irregular accumulation of nerve-force, which explodes, so to speak, in the shape of headache, and exhibits quite a "nerve-storm," is the one which receives most support at the present day. The term "nerve-storm" is very applicable. Various exciting causes, such as brooding over unpleasant thoughts, bodily fatigue, dietetic errors, too little exercise, over-straining of vision, loud noises of a disagreeable character, unpleasant smells, and even disturbances of the weather, may light up an attack. As the patient feels its approach, he may attempt, and sometimes successfully, to ward it off. But more frequently he resigns himself to what he feels to be his inevitable fate, and waits as patiently as may be, if he is wise, throughout the terrible, dull, aching, grinding pains, and the accompanying nausea, until the sleep comes from which he usually awakens refreshed. The chief peculiarities of this headache are, that it is often inherited from parents, that it is periodic, and usually attended by disturbances of vision.

Different members of the same family may be affected by it; and where it appears that only one is so afflicted, a careful investigation usually shows that some former members have suffered. The periodicity or regularity of recurrence does not appear, as one might at first suppose, to be due to infection by some special disease-poison, which is so commonly a cause of those diseases (*e.g.*, ague) that occur at regular intervals. In some instances, the regularity of the return is less marked than in others, and various circumstances, such as maternal duties, nursing, change of air and occupation, are said to prevent its appearance for the time being. Usually, also, the attacks become less frequent as the meridian of life is passed, and thus the affection has been spoken of as making youth "look forward to old age with a feeling of delight, and long for its approach, when he has been told his malady will disappear."

Peculiar disorders of vision, as already remarked, usually occur in this form of headache. These sometimes take the form of curious spectra, as in the case of Sir John Herschel, who, says Dr. Day, "described a singular shadowy appearance at the outside corner of the field of vision in the left eye, coming on when he was doing nothing and thinking of nothing. It gradually assumed the drawing of a fortification, with angles, bastions, and ravelins, and faint lines of colour between the dark lines, and the impression was the same whether the eyes were closed or open." More frequently the disturbance consists in dimness of vision. Objects are not seen distinctly, and any straining of the eyes to render them more distinct may

be accompanied by pain. This has led to the belief that errors of vision, such as far or over-sightedness, and other forms of irregular sight, may be in many cases the predisposing cause of sick headache. If these disorders or defects of sight are not aided or corrected by proper glasses, the eye is liable to be overstrained in the endeavour to see distinctly. The eye and the portion of the brain which governs it are able to bear this overstrain for a time, but at length give way, and their distress is revealed by a periodic explosion in the form of sick headache.

It has even been found that the attack may sometimes be warded off by the application of a drug (atropine), which paralyses the muscle within the eye which is chiefly concerned in the over-straining, while the tendency to the attacks has been got rid of by the use of a proper pair of spectacles. The cessation of the attacks after a certain age is explained by the advocates of this theory as being due to the fact that about that time changes in the sight of weak or erratic as well as of healthy eyes take place; that these changes call for the use of spectacles; and that a proper pair being ordered by the oculist for those who did not understand their need of them before, the predisposing cause is got rid of, and with it the headache. And so it very often happens that both oculist and patient fail to connect the two things together, and give to age the credit due to the spectacles. Other senses may suffer, but not so greatly nor so frequently as sight. Akin to the nervous is the *neuralgic headache*, a form of *tic douloureux*. This has its seat in one or other of the nerves of the head, and may be excited by decayed teeth, exposure to cold, and similar causes. It rarely occurs, even in these conditions, unless the nervous system is lowered in tone. Many people have decayed teeth without suffering the slightest ache so long as they keep their health at par. Once they begin to do too much work, bodily or mental, or expose themselves to conditions which act injuriously on the health, the decayed tooth gives them an unpleasant reminder of its presence in the shape of a neuralgic headache.

As to the treatment of these affections, it were, no doubt, easy to give a detailed list of the various remedies, from castor oil, Hunyadi Janos, mineral water, and blood-letting on the one hand, to quinine, galvanism, or a pair of spectacles on the other. But if drugs are necessary, these had better be prescribed exactly and scientifically in the first instance, at least by the physician, who is usually better able than the patient to select from the long list of drugs those which may be beneficial in each particular case. As may be gathered from the remarks made regarding the "bloodless" or anæmic headaches and the headaches following indigestion, a patient may believe he is deriving benefit from a drug which is in reality, by its later effects, keeping up the evil. No doubt many patients learn, but only by bitter experience, how they may best treat themselves, and may even contrive better than a medical man, who is a stranger to them, to alleviate their sufferings. But as it is only the skilled workman who knows how to manage the particular mechanism with which he alone is acquainted, so it is only the doctor who knows how to use and apply the various drugs at his command.

What may, however, be done by the sufferers themselves is, firstly, to avoid the causes of headache, whether these be predisposing or exciting. Many of the more common of these we have indicated. It is well, however, to repeat that any irregularity in the mode of life, such as errors in diet and drink, must be particularly shunned by those who are liable to any form of headache. Where alcohol is found to do good, it should be taken only in small



quantities and with the meals. All worry and excitement must be avoided. Sleep in sufficiency, as well as moderate exercise, is essential. When headaches continue to burden the frame and to make life miserable, a change of air or scene, a prolonged absence from business, pleasant society, music, and other enjoyments may help to get rid of them. Sometimes all that is wanted may be cod liver oil, or some other nutrient and tonic medicine. During the paroxysms of sick headache, complete rest on sofa or bed in a darkened room, is found by many to be the only thing which gives them relief; while others believe they are assisted to endure by drinking cups of strong tea or coffee. Those who suffer from this tendency to *migraine*, and have the disorders of vision well-marked, might find it worth their while to consult an oculist regarding the condition of their eyes.

WE believe that a further vote will be required to provide means for securing the efficient sanitation of Buckingham Palace, notwithstanding the already large sum which has been spent on its improvement.

BICYCLES are becoming a danger—so says our contemporary, the *Lancet*. It is urged that they are dangerous to the riders in respect of maladies which will be more clearly seen in future generations than at present; and it is also said that they are dangerous to pedestrians and to street traffic generally. Our contemporary is, we think, just a little too hard upon the bicycle—at any rate, medical opinions differ widely regarding this subject, though the tendency at present, we believe, is towards overdoing a healthy exercise.

COW-HEEL BAKED IN MILK.—Clean well a cow-heel, and put it with two quarts of milk into an earthen jar; let it stand in a slow oven for five or six hours. The heel may be taken and served with a little parsley and butter, or eaten with mustard and vinegar; and the milk, which resembles blanc-mange, skimmed when cold, then melted and flavoured with laurel-leaf, or vanilla, or lemon peel.—Miss Ryan's "Convalescent Cookery."

TEA AND COFFEE FROM GUANO.—Xanthine, a substance found in urine, and consequently in guano, pigeons' and fowls' dung, &c., is well known to chemists. On the other hand, coffee and tea contain caffeine and theobromine. Herr Fischer has discovered a process which allows caffeine and theobromine to be obtained at will from xanthine. Thus chemistry has conferred on us the doubtful benefits of being able to obtain an abstract of tea and coffee derived from guano.

WEIGHT OF WOMEN'S CLOTHES.—In relation to rational dress, the dress reformers have, we are glad to see, been advised to give attention to the absurd fashion now prevailing as regards women's dress, and especially at this time of the year, when, in addition to their ordinary clothes, ladies cover themselves with heavy mantles of fur, &c. Many women complain of feeling tired after a short walk, whilst they are really carrying a weight which would soon tire a strong man. Their waists are encircled with a belt, or hoop, to which a load heavier than a felon's chains is attached, and the shoulders and chest are compressed by an additional burden. Breathing is laboriously performed, and the contents of the trunk and pelvis are thrust down with a force which, if represented in pounds, would occasion considerable surprise. It would be a matter of great interest if medical men would ask their female patients to ascertain precisely the total weight of the clothes they wear in-doors and out.—*London Medical Record*.

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—*Gay*.

### NO. IV.—THE HAIR.

BY DR. ANDREW WILSON.

HAIRS, nails, and teeth are commonly spoken of by scientific men as belonging to the system of *skin-structures*. They are formed by the skin-layers, and are, in fact, parts of the outer skeleton of animal bodies, just as bones form the inner skeleton. It appears curious, at first sight, to speak of teeth, for example, as belonging to the outer or skin-layers; for they are not only like bones in appearance, but are fastened into sockets in the jaws, and resemble bones in their hardness. The true test of the exact nature of organs and parts in animals and plants is the mode or manner of development. Not what things appear to be, but how they have grown, and what they have grown from, are the points to which the man of science pays especial attention. Now, judged by this common-sense rule, it is easy to show that teeth, hairs, and nails, are all closely related. They are one and all hard products of the skin, and, in turn, become connected, more or less remotely, with the scales of fishes and reptiles, the bony plates of the armadillo, and the feathers of birds. Indeed, a feather is, simply, a very complicated kind of hair; and there are certain birds, such as the emus and cassowaries, in which the feathers resemble hairs much more closely than do those of their more familiar neighbours.

If we inquire how feathers, hairs, and teeth grow, we shall find a somewhat striking likeness between these structures in so far as their production is concerned. Each grows from a projection called a *papilla*, which evidently springs from the true or under skin in the case of the hair and feather. The papilla on which a tooth grows springs from the gum; but, as the gum is merely modified skin, specially adapted for lining the mouth, the tooth itself is seen to correspond exactly with that of a skin production. A nail is merely a plate of horny matter derived from the outer skin, and which grows from the true skin on a flattened projection called the *matrix*. Thus, broadly speaking, a hair, tooth, nail, and feather consist each of materials corresponding to the upper "scarf" skin (or *epidermis*), thrown off or produced upon projections of the under skin or *dermis* itself.

The hair-glands or projections are distributed very generally over the body, but are absent from the palms and soles. In the human body, the development of hair is modified, but occasionally—as in little "Krao," at present being exhibited at the Westminster Aquarium; in the Kostromas of Russia, father and son; and in other familiar cases—the growth of the hairs may come to resemble that seen in lower life. A hair itself, as we have seen, is merely a collection of outer or scarf skin "cells," welded together to form a filament or thread. It is usually oval in shape, and is covered by a series of fine scales which overlap like the slates on a house-roof. Below these cells is a layer of longer cells which form a kind of fibre making up the bulk of the hair. We frequently find that in the centre of the hair is a small space filled with the hair-marrow or *pith*. At its root, each hair is imbedded in a little bag called its *follicle*. From the bottom of the bag, rises the little projection, or *papilla*, in which the hair is produced. This projection, like that forming the nail



and the tooth, is well supplied with nerves and blood-vessels. The hair-bag, or "follicle," descends into the skin, and often lies deeper than even the "sweat-glands" themselves. When a hair is pulled out, the inner layer of its root-sheath which lines the bag also comes away as well. The root of the hair itself is hollowed out, so as to fit on the projection which, as we have seen, produces it. The over-lapping plates which cover the hair have their edges turned upwards. It would appear that, as the hair grows out from its bag, these plates scrape the sides of the tube, thus carrying out with the hair's growth, the oily matters and any other particles which have escaped into the bag. The "oil-glands" of the skin, as we saw when dealing with the skin itself, open into the bag, or sac, of the hair, and thus supply it with a natural pomade.

Hairs appear to run slantingly from the skin, and not, as is commonly supposed, in a perpendicular fashion. If we look at the crown of the head in young children, we may also note that the hairs grow in rounds or spirals, and it is this tendency of hair-growth which, even in later life, renders the orderly arrangement of the top-parting somewhat difficult of achievement. The hair, feather, and tooth agree in preserving, like the individual to whom they belong, a defined period of life. As the teeth drop out in old age, apparently by the natural failure of their nourishment and the absorption of their roots—a feature even better seen in the first, or milk, teeth—so the hairs die and fall away, to be succeeded in health by newer growths. And, as teeth decay and become diseased, so hairs are subject to diseases and affections of their own. Baldness is thus often due to some cause or other which has sapped the vitality of the hair-projections and abolished the power of producing new hairs. The colour of a hair resides in the pigment deposited in its outer layer, and this pigment or colouring matter has, apparently, two forms, fluid and solid. Light hair is said to possess fluid colouring matter alone, the solid matter seen in addition, in dark hair, consisting of little grains of coloured substance.

A special feature of the hair is that popularly known as its "standing on end." Very minute muscles are found to be connected with the hair-sacs. Acting under the influence of cold or mental excitement, these muscles cause the hair-sac to become more prominent, and thus give rise to the "goose-skin" aspect just alluded to.

(To be continued.)

HERE is an interesting record respecting the longevity of medical men, taken from Churchill's "Medical Record," and furnished by a medical contemporary. The year dealt with is 1882:—"The ages at death of 277 medical practitioners are given. Of these, 260, or 93 per cent., passed the age of 30 years; 230, or 83 per cent., passed 40 years; 214, or 77 per cent., passed 45 years; 196, or 70 per cent., passed 50 years; 179, or 64 per cent., passed 55 years; 151, or 54 per cent., passed 60 years; 121, or 43 per cent., passed 65 years; 80, or 28 per cent., passed 70 years; 52, or 18 per cent., passed 75 years; 25, or 9 per cent., passed 80 years; 9, or 3 per cent., passed 85 years; 3, or 1 per cent., passed 90 years. These figures give the high average age at death of 58.6 years, and show that the medical profession, in spite of its peculiar dangers to life, compares favourably in vital expectancy with other callings." There can be only one feeling, that of congratulation, on hearing the intelligence that an honoured and laborious professional life is not necessarily a short one.

## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. IV.—THE MICROSCOPIC BUILD OF THE BODY.

BY A. J. MANSON.

WE must linger for a little over the facts which the microscope discloses concerning the structure of our frames, because we shall have occasion in our future studies to make use of the information which we may thus attain. Every tissue and organ of the body falls to be considered from its microscopic standpoint, and from the point of view of its minute composition and structure. Hence, if we are properly and clearly to understand the body and its functions at large, we must dwell specially on the teachings of the microscope in regard to the elements of our frames.

We saw in our last paper that the body is built up of *cells* and *fibres*. "Cells," we also noted to be the microscopic units of which the bulk of the tissues and organs are composed. In the accompanying illustration are depicted some of the principal forms which cells assume; all the figures being highly magnified. At A, for example, there is drawn a diagram of a "cell." There, it is figured as a rounded body, composed of a *cell wall* (a); *contents* (b), a *nucleus* (c), and a *nucleolus* (d). The contents of cells vary greatly; but in living cells, the *proto-*

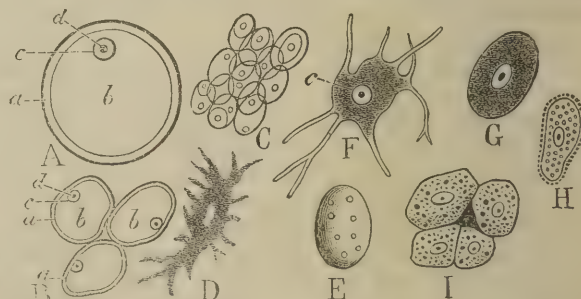


Fig. 1.—Various kinds of cells (largely magnified).

*plasm* forms at least part of the contained matter. *fat-cells* (depicted at C) the contents consist of oily material; and in *pigment-cells*, one of which is figured at D, the contents are represented by colouring matter of one kind or another. At B a group of the cells that form the "gristle" or *cartilage* seen in our bodies, and in the skeletons of certain fishes (e.g., lamprey) is shown. The nucleus (c) and *nucleolus* (d) of the latter cells are shown as in the diagram of the cell at A. The "nucleus" is a term used in common language to signify the centre or active unit of any movement. In science, and as applied to "cells," we indicate by this name the particle seen inside most cells. In some cells there may be two or more nuclei. The *nucleolus*, in its turn, is a smaller particle associated with the nucleus. We may say at once, that nothing definite is known regarding the functions or uses of the nucleus, or of the smaller particle associated with it. Doubtless both possess some important duty or purpose, for when cells divide and multiply, the nucleus often shares in the process of division. The particle we name the "nucleus" in lower animalcules—each of whose bodies consists of a single "cell"—certainly takes part in the work of reproduction and development of new animalcules. It is at least probable, therefore, that the nucleus and



nucleolus of cells possess some relationship to the production of new cells. In this light, these particles are the "reproductive centres" of cells.

In Fig. 1 other forms of cells, in addition to those already noted, are figured. Thus, at E, there is seen the cell of a plant. At F, we see one of the *nerve-cells*, of which the brain and spinal cord, as well as other regions of the nervous system, are partly composed. These nerve-cells give off processes, which run into and become "nerves." A simple *nerve-cell*, destitute of processes, is figured at G. A cartilage, or gristle-cell, is depicted at H; and a group of the *liver-cells* at I. It is these latter cells, as was shown in our last paper, which are the manufacturers of the *bile* made by the liver of man and other animals.

The tissues and organs of the body have already been spoken of as being built up of *cells* and *fibres*. It is interesting to note that the *growth* of our bodies must, therefore, resolve itself into the growth and increase of "cells." For it is by the development of new cells, which are usually produced from and by those already in existence, that our bodily substance is added to day by day and year by year. Hence it becomes interesting to trace the manner in which cells increase in numbers.

As the lowest animals and plants each consist of a single cell, and as each adult cell in this case produces new or young cells, so in our own tissues the cell-elements give birth to their like, and new cells thus become added to, and part and parcel of, our frames. Let us study for

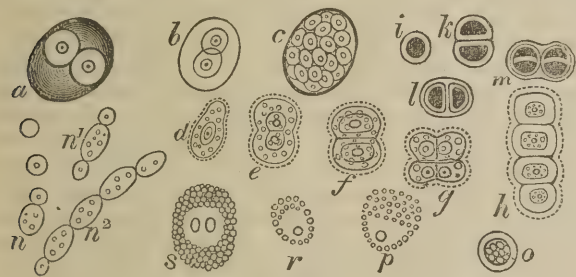


Fig. 2.—The multiplication of cells.

a moment the multiplication of the "yeast plant," which was described in our last article. As shown in Fig. 2 ( $n$   $n^1$   $n^2$ ), the yeast plants exist each as a single cell. The living protoplasm of the parent yeast plant (or cell) gives origin to a little bud, which grows as a projection on the parent yeast plant ( $n$ ). A little particle of living matter, derived from the parent, thus buds out from the latter, develops a cell-wall of its own, and appears adherent to the mother cell ( $n$ ). Another bud ( $n^1$ ) may form on the opposite side of the parent; and when the buds in turn, having grown to the adult size and form, themselves give origin to other buds, we are presented with a whole chain or series such as is depicted at ( $n^3$ ). Finally, this chain dissolves, and the individual plants included within its limits are set free; and in due time each will repeat the reproductive history we have just described.

This process of *budding*, or *gemination* as it is also named, is the simplest manner of cell-increase. Another method is known as that of *fission*, or *division*. Here the cell *divides* into two or more parts, each of which grows to become a cell like the parent. The parental substance, in other words, becomes lost in and divided amongst the new cells to which it gives origin. Many lower animalcules divide in this way, to form two or more new beings. The process of cell-division is shown at *b* (Fig. 2), where a plant-cell gives origin to two cells by the inside division

of its substance; a process which in an advanced stage (*c*), shows the parent-cell to be completely filled with young cells. At *d* a cartilage-cell is shown, and at *e* we see this cell beginning to undergo outside division, which proceeds through *f* and *g* to a further stage, where four new cells appear as the result of this process. At *h* a cell has undergone cross cleavage with four new ones. The stages whereby a low cellular water-plant (or *Alga*) divides into new plants are shown in *i*, *k*, *l*, and *m*, the last stage showing a division into four cells. The Red Snow Plant (or *Protococcus*) seen at *o* produces (like the vegetable cell *c*) many new plants by inside-division. At *p*, *r*, and *s*, lastly, are figured the stages whereby, according to some authors, the cell is formed by the clustering together of the atoms or molecules of fluids.

A final observation of importance regarding cells may be found in the remark that the human body arises from a cell (called the ovum, or *germ*), measuring about the 1-120th part of an inch in diameter. One of the first features observed in the development of this germ-cell, is its inside division into many cells; and out of the special arrangement and growth of these cells, the human body in all its complexity is formed. We thus grow to our perfection through the multiplication of cells. Or, as Professor Huxley has summarised these facts: "In all animals and plants, above the lowest, the germ is a nucleated cell, using this term in its broadest sense; and the first step in the process of the evolution of the individual is the division of this cell into two or more portions. This process of division is repeated until the organism, from being unicellular (one-celled), becomes multicellular (many-celled). The single cell becomes a cell-aggregate; and it is to the growth and metamorphosis of the cells of the cell-aggregate thus produced, that all the organs and tissues of the adults owe their origin."

**PASTE FOR LABELS.**—Soak glue in strong vinegar, heat it to boiling, and add to it a quantity of fine flour, until it becomes rather thick. This paste adheres strongly to glass, &c., and may be kept, without spoiling, in a wide-mouthed, glass-stoppered bottle. Should it become too thick, a small quantity may be removed and warmed, when it may be readily applied to paper.

**CHEAP HOLIDAYING.**—Medical men, in recommending foreign travel and sea voyages to their patients, often find that their advice cannot be followed on account of the expense they entail. It is interesting, therefore, to learn that a system of cheap return tickets has been instituted by the P. and O. Company, which brings the advantages of rest and change of climate and scene within the reach of persons of comparatively moderate means. By this new scale of charges a visitor to Australia, if he is back in London within nine months, pays only a hundred guineas for his double passage. A trip to Egypt and back in the season will cost him only some thirty guineas. For a hundred guineas he may travel from London to India and back, if he is absent twelve months, whilst for periods of three and six months the fare is less. The most attractive feature in the programme is, perhaps, the return journey to China and Japan. For a hundred guineas a man may have a return ticket to Shanghai and Yokohama, which allows him to spend six months in these countries; and when the moderate cost of living in China and Japan is considered, it may be safely taken for granted that for about a pound a day the over-taxed student or wearied professional man may travel through the tropics and spend the winter months in the bracing climate of North China or amidst the charming scenery and interesting people of Japan.—*Lancet*.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

#### NO. IV.—DISINFECTANTS AND THEIR USES.

HAVING reviewed the chief sources of infection in our last paper, we now arrive at the all-important topic of *Disinfectants*. We say "all-important," and the term may be applied to this subject in a double sense. There is, firstly, to be taken into consideration the fact that the use of disinfectants is the chief means we possess for preventing the spreading of infectious diseases. As a necessary health-measure, disinfection is in itself a sheet-anchor of safety. Then, secondly, we must know how and what to use in disinfecting our houses and other buildings. If we use worthless substances, or those powerless to check the progress of disease, our best efforts must be unavailing. If we use disinfectants unwisely, that is, if we employ either the wrong substance, or commit, as is too often done, grave chemical errors in disinfection, by mixing substances which act in opposition to one another, we naturally fail in our work of rendering infection impossible or unlikely. Those things which have to be aimed at in disinfection, then, are firstly to see that we use the proper substance; secondly, to be certain that it is used in a proper fashion; and, thirdly, that we carefully study to check every possible means or source of infection by careful application of the disinfecting measures. These points are of extreme importance, because, when not attended to, they falsify all health-measures, and tend besides to propagate amongst the ignorant and poor the erroneous belief that, after all, it is impossible to avoid infection or to limit the spread of disease. Careless disinfection, in this light, is worse than no disinfection at all. For, in the latter case, where no attempt has been made to check disease, there can be no discredit cast upon measures which, properly carried out, are the salvation from misery and death of those who are well.

The subject of "Disinfectants" is a very wide one. That a thorough knowledge of this theme may be gained by the public, we propose, in this paper and in succeeding articles, to deal exhaustively with it. It is necessary, therefore, that we should firstly answer the question, "What is a disinfectant?" and thereafter proceed to describe in detail the various means and substances which are at our command to-day as a means of lessening the risk of infectious disease, and of preserving both individual and national health.

A *disinfectant*, speaking generally, is a substance which possesses the power of destroying, or of rendering harmless, the special matter which produces disease. But, under this general term, we speedily find substances to be included which act in very different ways and fashions upon diseased matter. For example, there are certain agents which, like the *oxygen gas* of the atmosphere, *oxidise* or combine with the poisonous matter, and thus render it inert. Other substances, again, seem to act by arresting decay, by "preserving" (or "pickling," to speak popularly) the poisonous matter, depriving it thus of its virulent properties whilst not absolutely altering its composition. Other disinfectants, again (such as heat and fire) may be said absolutely to destroy the diseased materials in various ways. It must

be added that authorities are by no means agreed as to the exact action of many, and even well-known, disinfectants, upon disease-germs. We do not yet know sufficient of the latter to speculate with certainty upon the special actions of various disinfectants upon each kind of fever-poison. It is more than probable, from all we know experimentally of actual "germs," that they possess very different degrees of susceptibility to the action of heat and other disinfectants; so that many details regarding the action of these substances are yet obscure. But, notwithstanding these undecided points, we are, nevertheless, in a position to lay down, for the employment of disinfectants, certain broad rules which experience has taught us are of the utmost value in preventing the spread of those materials which, charged with fever-poison, produce in healthy bodies the inevitable diseases of which they are the early or germ-representatives.

We shall begin our list of *disinfectants* by enumerating certain natural means of rendering harmless the poisonous matters derived from animal and plant bodies. One of the primary means of thus destroying the organic or living matter conveyed by the air is the *oxygen gas* of the atmosphere. This gas, which is evolved by certain artificial disinfectants, forms nearly twenty-one parts per cent. (by volume) of the air around us. There is no question that oxygen acts as a powerful disinfectant, through its power of uniting with other matters and "oxidising" them, just as, in fact, it attacks and "oxidises" iron in the process of rusting that metal. We see this power of oxygen, when we become aware of the fact that *free ventilation* is the best possible preventive of *typhus fever*, for example, a disease produced by overcrowding and want of ventilation. In fever-hospitals, where typhus fever is being treated, there is comparatively little risk of infection so long as the ventilation is attended to, but very great risk if the air is allowed to become stagnant and supplies of fresh oxygen denied. A strong argument in favour of *free and perfect ventilation* may, therefore, be found in the fact that *by this process we really purify and disinfect or oxidise whatever diseased matters may be floating around us in the air-ocean at the foot of which we live and breathe*. Dr. George Wilson remarks that "it is true some of the operations of Nature are in themselves calculated to accomplish this end (that of disinfection). Injurious gases become diffused, diluted, or decomposed; animal emanations are absorbed in the processes of vegetation; suspended matters are washed down by the rains or fall by their own weight; while many organic substances are oxidised, and thus rendered innocuous. Were it not for these purifying agencies, which are in constant activity, sanitary measures would prove futile; and, indeed, they are only successful in so far as they approximate to the preventive and remedial means which Nature employs."

In free ventilation, then, is found a powerful and natural means of disinfection. We shall next look at other natural means for accomplishing this end, in the shape of *heat and cold*.

(To be continued.)

A HINT FOR THE TREATMENT OF PHTHISIS.—Mr. H. Osborn Bayfield suggests (in the *British Medical Journal*) that the use of inhalations of volatilised palm oil may be useful in the treatment of phthisis. He bases his opinion on the fact that workmen engaged in tinning where palm oil is used as a flux, inhale the volatilised oil and get fat. Those previously emaciated or weak rapidly improve. The idea is worth a trial.



## Healthy Houses

"A happy home must be a healthy home."—Anon.

### THE LESSONS OF HEALTH REPORTS.

BY A MEDICAL OFFICER OF HEALTH.

As we have pointed out in preceding articles, we cannot place too high a value on the lessons which the reports of medical officers of health provide for us. Sanitary science is largely an application of the experience—often bitter and hard—which epidemics of disease have placed at our command. "Nature's sternest teacher, yet the best," is a phrase most applicable to the experience of modern sanitation, as based on the errors of the past. We become wise through failures and mistakes, and this maxim holds very true of health-knowledge. What is to be regretted are the facts that the fruits of experience travel so slowly, and that the bitter lessons of the yesterday in sanitation have so often to be learned over again in the to-day which is with us. But the arousing of the national apathy to health measures must be a gradual process. Its slowness constitutes its sureness in one sense; and there can be no doubt that the reiteration of the experiences which health officers daily meet with, in their ingoings and outcomings among the people, forms a powerful means of appeal to the public for increased attention to health details.

In the St. Marylebone district of London, Mr. Winter Blyth gives some interesting details regarding the origin and spread of infectious diseases. We quote from an able summary of Mr. Blyth's report which deals with the sanitary work of 1882. Referring to the views of eminent men respecting the duration of human life, Mr. Blyth says the words that, "in the present day man does not die, but rather kills himself, come in appropriately as a heading to some description of the sanitary circumstances by which the Marylebone parishioners are surrounded, and by a tolerance of which they are assisting in the process of their own self-destruction. Thus scarlet fever was largely prevalent at one time of the year, but Marylebone, like other metropolitan parishes, remains without proper means of isolation; and as to disinfection, we find no reference to any apparatus for carrying out the process either in the body of the report or in the index with which it has wisely been supplemented. Diphtheria, too, was unusually prevalent, and it was often found to be associated with the use of water fouled by watercloset air, with the entrance of sewer air into dwellings, and with a filth-sodden state of the house foundations owing to faulty brick drains."

More than usually interesting is a report which Mr. Herring gives of the health of the Builth rural district. Here, a population of 6,758 persons live in an area of 137,116 acres. Diphtheria and typhoid fever occurred in the district, and Mr. Herring has given an elaborate and instructive account of the origin of the diphtheria. The account, ably summarised by a medical contemporary, is as follows:—

"The first two cases of diphtheria occurred in two children, of a family of five, all living under the same hygienic conditions, partaking of the same dietary, attending the same school, and both, previous to this attack, in sound health. The only point of difference between them and the rest of the family was in the matter of sleeping arrangements. The two children occupied a small bed-room with no fire-place, except a window, twenty-four inches by eighteen in. facing south-west. *The room had been used by*

*a former tenant as a wool-store, and at the time of his leaving in November there were a year's shearings on hand. When first used for sleeping purposes in January, 1881, the room was ordinarily cleaned, but was not lime-washed or in any way disinfected. One end and a side of the room were outside walls, the one containing the window exceedingly damp from the absence of eaves' spouting and from the abutment of the roof of a built-on kitchen, allowing all the rainfall on its surface to run down the side of the bedroom wall before reaching the ground. The question seems to arise whether there were any special reasons why these two should have become affected in preference to the remaining three, younger, and therefore presumably more susceptible children. Mr. Herring thinks there were, and in support of his statement advances three theories as to the source of infection, which apply with special force to the room in question, (a) aerial infection; (b) from wool; (c) fungoid growths. As regards his first theory, Mr. Herring shows that from February 7th to the 10th the prevailing wind was a westerly one, and much above the average velocity of fourteen miles an hour. The window of the bedroom faced the south-west, and would therefore receive the wind in its full force, which no other window of the house did. There were, however, no cases of diphtheria within what might be called a reasonable distance, so that the case of aerial infection cannot be proved. In support of his second theory, Mr. Herring has more proof to advance. It seems possible that some of the clippings may have been from diseased animals, and that the fleece may have retained the germs of some virulent animal disease. The stagnant air of the apartment, and the warmth consequent on the accumulation of such a quantity of wool, would give the conditions necessary for their retained vitality, and probable reproduction and development. The room not having been disinfected before being used, might possibly contain some of the microscopic plants (or bacteria) which produce the disease; in this event, the two children being the sole occupants of the room would be the only ones to suffer.*

As regards the third theory, that of fungoid growth, most writers on diphtheria agree that *dampness* of dwellings and their surroundings materially assists in the production of the disease. In one or two places the wall of the room in question was covered with a very fine semi-transparent mould, scarcely observable except on the closest scrutiny. This, Mr. Herring presumes, would correspond with the *aspergillus* in Dr. Taylor's case (see *British Medical Journal*, July 2, 1881). The disease showed itself in the elder child on February 11, four days after the heavy rain; it is therefore not unreasonable to class the two circumstances as cause and effect. Eliminating from the discussion the probability of the disease having arisen from (1) impure water; (2) dirty closets; (3) foul drains; or (4) actual contact with the disease in other persons, the three theories already referred to remain. Of the three, the last seems the most probable, as it fulfils the greatest number of the conditions observed as being the constant factors in the production of this malady."

This instructive case teems with lessons which the public should bear in mind. The need for the thorough disinfection of all apartments—and especially sleeping apartments—which have been used for storage purposes, is clearly shown. It is a curious fact that there exists a malady, often fatal in its nature, and called "wool-sorters' disease," from its occurrence amongst persons who follow that occupation. We know that wool, under certain conditions, possesses the power of producing disease, when it contains any germs or particles of virulent nature. The connection



between the outbreak of diphtheria above noted and the former usage of the apartment as a wool-store, seems a very reasonable one ; although, of course, it is possible that the fungoid growths may have assisted in the production of the disease. A case of "wool-sorters' disease" is practically one of blood poisoning ; hence the relationship between infection from the wool in diphtheria and the above-named disease is of tolerably close nature. This much, at least, is well-nigh certain, that thorough disinfection of the apartment and the abolition of damp would have saved much pain and misery, by preventing the development of the disease, whether it arose from wool-germs or from the fungi bred in the damp.

An equally interesting recital is found in the report of Mr. Turner, dealing with the health of Buxton. In some respects the case he therein reports is unique, and proves in the most direct manner the intimate relation which exists between typhoid fever and sewage contamination. A child was allowed, from want of care and supervision, to fall into a mass of long pent-up sewage. The sewer in question had been broken in upon, and was thus blocked up ; the sewage matter in this way having time to develop all the foul emanations and virulent qualities which appear to form a fitting soil for the growth of typhoid fever germs. For a week, says the summary, the child "showed symptoms of lassitude and *malaise*, and on October 12 was the subject of typhoid fever, which, after running a course of three weeks or more, disappeared. This patient, it was reasonable to hope, had completely recovered ; and his convalescence would have been uninterrupted, but for the administration, by a relative, of some mussels as a relish to his food. Unfortunately, this mistaken kindness, with other causes, induced a relapse which nearly proved fatal. *During this relapse, relaxation of the care of the patient and neglect of the disinfection of his excretions resulted in the extension of the fever to three children, members of the same family.* At the end of the year, all the patients had recovered, but were extremely emaciated. During July, there was a severe outbreak of diarrhoea, which was confined to one block of buildings, and was caused, undoubtedly, by an impure water-supply. A thorough cleansing of the reservoir and a flushing of the supply-pipes were immediately followed by a cessation of the disorder."

The direct consequences of carelessness in the treatment of the little patient were admirably illustrated by the words we have italicised. If people do not know what to do when fever attacks their households, and if they are either ignorant of, or careless regarding, the manner in which the excretions of the patients should be treated, they must pay a terrible price for their neglect and want of sanitary knowledge. In Mr. Turner's case, three children were thus infected needlessly, and through the plain neglect of sanitary rules which should be known to rich and poor alike.

In the report of Dr. Tripe, for Hackney, there are some interesting details, which contain matters of high importance in connection with the public health.

"In 1881 small-pox caused 225 deaths at Hackney, and in alluding to this fatality Dr. Tripe has little to add to the remarks which have appeared in his previous reports. As regards small-pox hospitals, he believes that they exert a more or less prejudicial influence on the health of the inhabitants of their neighbourhood if more than 100 patients are admitted, and that, therefore, more than that number should not be treated on any site, except in a great emergency, and that, under any circumstances whatever, the number should be absolutely limited to 150. Dr. Tripe is also of opinion that the infection of this disease can be car-

ried by air as well as by articles of clothing ; but when the number of patients treated in a hospital is small, judging from what has happened in this district, he believes that infection by air is comparatively rare. There were seventy deaths attributed to whooping-cough during the year. Dr. Tripe expresses his regret that such a large mortality, and that such great injury to the lungs of many who survive, should arise from want of knowledge and from carelessness. With the view of preventing the reckless exposure of children suffering from this disorder, application will be made to the sanitary authority to prosecute the person in charge of the sick whenever a case comes to Dr. Tripe's knowledge of such exposure within his district in a railway train or public conveyance, where the sufferer is kept in the vicinity of healthy persons for some considerable time."

There can be no person who will not heartily approve of the opinions contained in the sentence we have last quoted. It is only an exercise of supreme selfishness which would cause any person in charge of infectious disease to convey the patient in a public vehicle. Yet, it is to be feared, this practice is only too frequently illustrated in our towns and cities.

A final lesson regarding the need for closely guarding those who are well in our households from infection, is also contained in Dr. Tripe's report :—"During 1881 the district was visited with an outbreak of diphtheria and malignant sore throat, causing 61 deaths, 49 of which were certified as being from diphtheria. There were altogether 71 cases reported, of which 38 occurred in the same number of houses, 20 in ten houses, nine in three houses, and four in one house, so that the disease was confined to one case in a house in a little more than one-half of the whole. In most instances, when two or more cases occurred in a house, the disease was caught by *direct infection*. Thus at one house a child, aged five years, first contracted the disease, and the mother who attended the child caught it a few days afterwards. At another house the grandmother who nursed a child eight years old took the disease and died. The elder of two brothers residing in Kingsland caught the disease from the younger, and the same is said to have occurred with two sisters. The mother of the two children, who nursed them, was infected and died ten days after the death of the child who first contracted the disease."

This is a sad account, viewed in any light. It becomes trebly sad when we reflect that by the use of ordinary precautions the risk of such infection may be greatly lessened, or even abolished altogether.

#### PROSPECTIVE ARRANGEMENTS.

WE are pleased to be able to inform our readers that we have made arrangements for the appearance, in future numbers of HEALTH, of papers on the following, amongst various other subjects of vital interest to all classes of the community :—"The Management of Infancy," by Dr. BAIRD ; "Electricity and its Applications to Health," by W. L. CARPENTER, B.A., B.Sc., F.C.S. ; "Domestic Water Supply," by W. IVISON MACADAM, F.C.S., &c. ; "Æsthetics and Health," by F.R.C.S. ; "Training, Athletics, and Health," by various writers ; "The Common Ailments of Children," by Dr. CHAPMAN ; "Our Ambulance Lectures" by Dr. A. G. MILLER, F.R.C.S.E. ; Papers on "Cookery and Health," &c., &c.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### THE RECREATION OF YOUNG CHILDREN.

By J. G. STARK, M.A.

No feature in early life is so apparent as the tendency of the very young child towards ceaseless movement in its waking hours. The infant is really "never at rest," to use the popular phrase, when it is well and awake. It is the most natural of infantile phases to see the child instinctively leaping and spontaneously jumping in its nurse's arms. A dull infant cannot be a normal or a healthy infant. When a young child is quiet, dull, and depressed, we as instinctively assume there is something wrong, as when the child cries we know it is in pain or discomfort. What applies to the infantile stage of life, applies with equal force a little later on in its history. As a child, beyond the period of mere infancy, the human being exhibits the same spirit of restless activity. The sober child is esteemed an anomaly. There is, to use a northern word, something "uncanny" about a child who is not frolicsome by nature, and who does not romp and play like its neighbours when in the enjoyment of health. We have come to regard this "unrest" as thoroughly natural; it remains, however, for us to recognise the restlessness of childhood as equally health-giving, and as a thing to be encouraged, directed, and trained.

The period of early life is marked by intensely active growth, and by the bringing into play of all the muscles of the body. How important for the formation of a healthy frame in after life this development of infant textures must be can be readily imagined. Yet there seems little doubt that, as a rule, the necessity for infantile exercise is not generally recognised. The spasmodic leaps and jumps of the infant in its nurse's arms are true indications—instinctive and automatic as they are—of the need for that due exercise which the young frame demands. Mothers and nurses usually put the idea of "exercise" for infants entirely out of court, as a thing unheard-of and utterly absurd. Yet "exercise" is, in one sense, the life of the child, and without a due amount of activity and freedom of movement, the infant's health must inevitably suffer. The word "exercise," it is true, carries with it meanings of very varied kind. By "exercise" for young children we simply mean to indicate those means of encouraging the natural movements of the child, and of assisting the free growth of bones and muscles. It has been shown that a child constitutionally delicate, and suffering, say from any disease or weakness of its bones, remains quiet, subdued, and timorous of movement, when compared with the healthy child. If the latter be placed on a mattress or rug, and freed from the "swaddling clothes" in which infants capable of active movement are perennially and wrongly bound up, it is seen to exhibit incessant activity. Nothing delights the healthy child more highly than unrestrained freedom of movement. It crawls and jumps instinctively in its infantile fashion, and crows in the exultation of its liberty. It laughs with delight, and shows that it thoroughly enjoys the play. The infant who is allowed its daily meed of exercise on a mattress, carefully tended, and in a warm room free from draughts, will be found to sleep and eat more naturally than the child pent up all day in the arms of its nurse, or swathed so tightly that even its breathing is interfered with. The infant in

its play tires itself judiciously, so to speak—for the exercise should, of course, be kept within bounds—and the fatigue is followed by that natural sleep which alone represents the healthy rest of young and old alike. Mothers who are troubled with sleepless infants, and with children who are weakly and puny in any way, should try the experiment of giving baby an unrestrained romp on his mattress. Loosely clad, and allowed freedom of movement, the child will come to enjoy its play; and whilst lungs and skin are duly exercised, bone and muscle are stimulated to growth.

Beyond the years of infancy, and during childhood's days, the question of exercise remains of great importance. Into the question of the "play" of the child at school, we do not at present require to enter, since special attention will be devoted to that subject at a future date. That which concerns us at present are the means of healthy exercise which the ordinary life of the child at home should certainly include. Beyond the infantile stage of life, the movements of the child become more and more "purposeful." They are performed for definite purposes, and to effect ends which are clearly mapped out in the child's mind. Hence, as these movements are of more decided character than those of infancy, "games"—which merely represent play with a purpose—are naturally indulged in. The young child does not "play" aimlessly and listlessly, as is too often supposed. Fröbel in his "Kindergarten" system of education, now so universally in vogue for young children, was one of the first to recognise this great truth. He employed the ideas of the child's play as guides in its education; and thus utilised play and amusement for instructive ends, and, it may be added, for health ends as well. If a child is provided with a ball, nothing delights it more than some defined amusement with that toy. It will aim at effecting some particular plan—as, for example, knocking down an object, or catching the ball in its rebound. Possibly the ball is the best plaything for the child just emerged from its infantile stage. Freedom of movement is encouraged in such an exercise, and there is, besides, little danger of fatigue or undue prolongation of this exercise. The child should never be set down to regular exercises, or to any stereotyped course of mild gymnastics, until it has reached its seventh or eighth year. Nursery gymnastics and the use of swinging bars, the trapeze, and allied apparatus will only tend to injure the child if they are used before the age of seven or eight. The movements these exercises excite and demand are too severe for young children, whilst, on the contrary, they are well adapted for boys and girls of eight, ten, and twelve years of age. The use of the rocking-horse, that "old familiar friend" of childhood's days, should not be begun before the child has attained its fifth or sixth year. Very strong considerations, connected with the development and consolidation of the spine and its curves, may be urged against the too early use of the "horse," and of swinging bars and the like. The same caution applies to the use of light "dumb-bells," which are well adapted for boys and girls of ten or eleven and onwards, but are injurious to younger children. The chief point that is neglected in the physical education of the young is the want of perfect freedom in all their movements. Nothing tends to produce physical weakness and deformity so readily as the common system of hampering and confining the naturally free movements of infants and very young children.

THE importation of artificial eyes in the United States is about 10,000 annually, and recently the manufacturing of them has become a home industry.



## Notings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**SOLDIERS' SHOES.**—Dr. Ziegler, surgeon in the Swiss Army, called the attention of the Geneva Conference to the fact that there are from 700 to 800 men rejected every year for deformities of the feet. This number makes about six per cent. of the whole army, and is caused, he argues, by badly-made shoes. In the foot of the child of those who have always walked bare-foot, or who have worn properly-made shoes, a line passing through the middle of the heel cuts the head of the first instep bone longitudinally and divides the nail of the great toe into two equal parts; in walking, the toes separate and the great toe is carried inwards. When the toes are pressed together, bursæ or pads are formed over the joints at the base of the toes; these bursæ become inflamed; the nail grows into the flesh, the smaller toes are pressed together, and are always covered with moisture; their inner surfaces are abraded by the nails of the adjoining toes; the surface becomes inflamed, ulcers are formed, and the man is unfit for duty. Ziegler thinks:—1. That the shoes are too pointed and injure the front part of the foot. 2. The sole should be eighteen millimètres (a millimètre is nearly  $\frac{1}{16}$ th of an inch) longer than the foot, so as to allow room for the toes when the arch of the foot is diminished by the weight of the body in walking. 3. The sole should conform to the outline of the foot when pressed on the ground by the weight of the body. 4. The shoe should never press on the hinder joint between instep and ankle. At this point the outer border should be convex, so as to allow plenty of room for the outer border of the foot to rest firmly on the ground. 5. The heel should be broad, and not too high. In Switzerland it has been difficult to introduce reforms, because the soldiers procure their own shoes. A law has just been passed, however, authorising the government to supply them in future. The Italian army stands pre-eminent for the excellence of the covering for the feet. In Austria, Russia, and France they are either poor or positively bad. In Germany a form conforming to the shape of the foot has been adopted. It is necessary to take great care of children's feet, for it is then that these irregularities of shape, so troublesome in after life, are formed. Mothers in general are like the Chinese—they like to form for their children a small and pretty foot. Any one who observes the form of the foot will see that the outer border always rests on the ground in standing and walking; so the outer border of the sole of the shoe should always rest on the ground throughout its entire length. Any change in the direction of the pressure changes the contact of the ends of the numerous bones in the foot at the joints, and the foot necessarily loses its elasticity in walking. Fatigue is the first result, and lameness, if the exercise be too long continued.—*Revue d'Hygiène.*

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**MUNICIPAL REFORM.**—The following letter has been forwarded to the Home Secretary by the National Health Society:—"Sir,—I am desired to express the satisfaction of the National Health Society at the announcement that her Majesty's Government have determined to bring forward a measure for the improved Local Government of the

Metropolis, and they do so in the confident expectation that it will make provision for the removal of those conditions of disunity in the present local administration which have long proved so detrimental to measures for the improvement of the health of the population. I am to transmit herewith, for your consideration, copies of the representations that with general public support the Association have heretofore submitted to your predecessor on the principles of the amendments, needed especially in respect to the conditions of the Water Supply of the Metropolis; and, I may now add, as to its drainage, which may be thus summarised:—"That measures should be taken for the prevention of the stagnant detention of water in cisterns, by which good supplies are made bad, and bad supplies are made worse; that supplies from improved sources should be carried direct and constantly into every house; and the fouled water constantly removed by self-cleansing drains or channels from every house, and from the town by works under one and the same authority, and that authority a public and responsible one." 'That the success of any administrative measure for the sanitary improvement of the Metropolis will be dependent on the competence, in science and skill, of the executive officers employed; and that it is requisite that adequate securities should be provided to ensure such competence in all new appointments.' 'That it is the confident belief of those conversant with sanitation, that the cost of efficient measures for the reduction of existing excessive death rates will, under efficient administration, be less than the present incurable burthens arising from excessive sickness and mortality.' I am to state further that sanitary authorities are agreed that the annual money burthens of excessive sickness and excessive numbers of funerals from premature mortality in the metropolis exceed what would be the annual charge of efficient preventive works, which can only be obtained by a properly-constituted public authority under a complete unity of administration.—I have the honour to be, sir, your obedient servant, WESTMINSTER." A meeting to promote the objects of the society is fixed for May 9, at 5 p.m., at Grosvenor House, by permission of the Duke of Westminster, who will preside.

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**FUNERAL REFORM AND HEALTH POLICY.**—What is called "Funeral Reform" has of late years been energetically mooted in England and the United States, and the most recent outcome of the movement in the last-named country has been the energetic action of a well-known New York surgeon, Dr. Lewis E. Sayre, who has published some certainly cogent strictures on the perils to health and even life from the practice of uncovering the head at funerals, especially during the inclement months of winter and spring. This distinguished medical practitioner holds that his countrymen in general are far from having an adequate conception of the number of cases of pneumonia and of bronchial complaints, and the number of deaths directly engendered by attendance at funerals. In Europe it may interest Dr. Lewis E. Sayre to know the mortality occasioned by attendance at funerals in bad weather has long been a matter of history. Many of the distinguished and more elderly mourners at the interment of the Duke of York died from bronchitis within a few weeks of the Royal obsequies; the Marquis of Londonderry's funeral in Westminster Abbey in 1822 was equally disastrous to the aged or delicate among those who gathered round his tomb; and the funeral in Père Lachaise of the celebrated French jurisconsult, M. Robert de St. Vincent, is said to



have decimated the senior ranks of the Paris Bar, one of the victims being Brillat Savarin, the author of the "Physiologie de Goût. Dr. Sayre strongly deprecates the custom of uncovering the head in the open air at the grave. He also considers the danger to which the similarly uncovered pall-bearers are liable; while he regards uncovering in the House of Death and in the church as the most common form of this exposure. There should be, he contends, no difference of opinion as to the desirability of abandoning a usage which is likely to lead to such disastrous consequences; and on the eve of the funeral of Mr. Peter Cooper the suggestion was made that if on that occasion the new departure of not uncovering the head at the grave of the deceased philanthropist were begun, the good example would become widely known, and doubtless would be generally followed in the future. Whether such would be the case in America or in this country, may be held to be a very moot point indeed. It would be, at all events, very difficult to persuade English people to relinquish the performance of that which for many centuries has been considered among Christians as an act of reverence. At the same time, the judicious attendant at funerals might do worse than provide himself with a closely-fitting skull-cap to be assumed when the mournful procession leaves the cemetery chapel for the grave. He might still remove his hat; but the "calotte" would save him from catching "his death of cold."—*Daily Telegraph*.

\* \* \*

**TYPHUS FEVER IN A CONVENT.**—A remarkable outbreak of typhus fever at a convent in Hammersmith is the subject of a report just presented to the Fulham Board of Works by Mr. N. C. Collier, the health-officer of the district. Mr. Collier has no doubt done his best with the imperfect information at his command, but the circumstances of the outbreak are in every way so remarkable, that a thorough investigation from the bottom should be at once instituted by the Local Government Board. There is a so-called "home," with 300 or 400 inmates, packed together in rooms "so overcrowded and badly ventilated as to be dangerous to health, in which no less than twenty-seven cases of typhus fever are allowed to occur before any preventive or remedial measures whatever are thought of. Mr. Collier was called in by the medical superintendent of the home for his opinion as to the nature of the disease that existed in it. He there found ten persons—seven children and three Sisters of Mercy—suffering from typhus, and was shown certain other children who were reported to have recovered from the same complaint as the ten persons then ill were suffering from. Mr. Collier could obtain no information as to the dates of the illnesses of the persons who had been attacked, nor could he get any notes as to the particulars of the illnesses. No notes had in fact been taken." Without such information, and owing to the dirty condition of the bodies of the patients, Mr. Collier could not form a diagnosis as to the nature of the fever. The seven children were promptly removed to the Fulham Hospital, but the removal of the Sisters of Mercy was objected to by the mother superintendent. Doubts as to the nature of the disease were set at rest by another case of undoubted typhus occurring at the home, and at intervals two more cases, besides a fourth in the person of a Sister of Mercy. Moreover, the hospital nurse who attended the seven children on the night that they were brought to the hospital was, after the usual period of incubation, seized with typhus fever of a severe character, to which she has since succumbed. Mr. Collier's report is not so

full as could be desired as to the sanitary circumstances of this so-called "home." He says he is "not at all surprised at typhus fever spreading with an atmosphere so polluted, and with such neglect of personal cleanliness," but of the details of this unwholesomeness he gives us no particulars. The whole outbreak is so shocking, and as yet so unexplained, that we trust a very strict and searching inquiry will at once be instituted into its origin and spread, and especially into the possibility of so deadly a disease raging unchecked and unheeded by those morally, if not legally, responsible for the welfare of the children placed under their charge.—*British Med. Journal*.

\* \* \*

**SKIM-MILK AS FOOD.**—The German chemists, Ritthausen and J. König, have lately been investigating this subject, and conclude that the price paid for albuminoids in skim-milk is lower than that paid for them in any of the ordinary foods in the market except stock-fish. One thousand nutritive units in skim-milk, according to König, cost 41·7 pfennings; in pork, 71·4; in butter, 81·7. Ritthausen states that 2·8 litres (rather more than two quarts) contain as much nitrogenous matter as a pound of meat. Even at the London price of 2d. per quart, this is far cheaper than meat, but in country places, where it is retailed at 1d. per quart, the economy is very great. Butter-milk and skim-milk being nearly alike in composition, these analyses explain the health and vigour of agricultural labourers whose staple food is buttermilk and potatoes, a meal of this mixture, with a liberal allowance of the buttermilk, being equivalent to one on roast beef and potatoes. My own experience confirms the above. When living at Caergwerle, in Flintshire, where we milked our own cows, our skim-milk was largely consumed by myself and family. It was my daily beverage. I found that new milk, when taken daily and freely, palled on the palate, and became, in time, repulsive, but I never tired of skim-milk. The removal of the fat by skimming explains this experience. The skim-milk contains all the nitrogenous nutriment of the whole milk minus only the less digestible fat. To those who carry a redundancy of this material, its absence in such food is a desideratum. Should any of my London readers be induced by these facts to try skim-milk as a beverage, I recommend them to use some vigilance, lest the milkman should (to save trouble) supply them with diluted half-and-half instead of skim-milk. The genuine article will usually be a little sour in London, as it must stand some time after its journey in order that the cream may rise.—*W. Matthews Williams (Gentleman's Magazine)*.

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**BRAIN HEALTH.**—We see daily the evil effects of overstraining the powers of the brain. Many sources of overstrain are beyond our control. In the hard battle of life, man must work hard to gain a living, and often under circumstances prejudicial to brain health. But mind you, the brain is a long-suffering organ as far as work is concerned. It is not work, but worry, that kills it, and worry is not an influence we can often keep in subjection. But it is in the power of many members of the community to kill the brains of others by overstrain. It is very doubtful economy to overstrain thews and muscles, it is very false economy to overstrain brain-cells, for on the action of these cells, the proper use of the muscles depends.—*DR. BATTY TUKE*.



## Our Bookshelf

“Reading maketh a full man.”—Bacon.

*Disinfectants, and How to Use Them.* By EDWARD T. WILSON, M.B. Oxon., F.R.C.P., &c. (London: H. K. Lewis.) Eleventh thousand.

THIS little card is one of the most valuable aids in the diffusion of health knowledge that we remember to have seen. For the trifling outlay of one shilling, any one desirous of giving the poorer classes some plain instruction in this necessary branch of sanitation, can procure a dozen of Dr. Wilson's cards, each card containing full directions for the use of different disinfectants. We can imagine no more useful or more typical Samaritan work than the distribution of these cards by City missionaries, district visitors, and other workers amongst the poor. If the efforts to raise the masses in the social scale were more frequently conducted on lines which include the teaching of health knowledge, we should hear less about the discouraging results of the labours of philanthropists. Here, at least, is a form of true philanthropy which cannot fail to bear fruit in a very important direction, namely, in that of teaching people what to do when infectious disease attacks them, and how to prevent the spread of those maladies which kill off the poor in vast numbers every year. Armed with the health tracts before us, any person may readily fumigate and disinfect a house, and thus save much misery or even prevent death. The treatment of the fever patient, in relation to the disinfection of his person and of the excretions, is also given in this excellent little health-tract. Special directions are also noted therein, for dealing with infected cabs and carriages, and for the filtering of water. If we might suggest any improvement in the tract, we should be inclined to recommend that in the next edition, the necessity for avoiding the mixing of disinfectants—a common error—should be more decisively stated. Clergymen and all others interested in the welfare of the people could not do a wiser thing than buy a supply of Dr. Wilson's tracts and distribute them broadcast in their parishes. The tract is one we should like to see in every house.

## Sanitary Appliances, &c.

THE LADIES' NEW SANITARY TOWEL (Patented).—Messrs. Southall Bros. & Barclay, of Birmingham, have produced, in this article, a requirement which seems to merit the encomiums bestowed upon it by the medical and other journals. There would appear to be ample testimony at hand that a large amount of comfort and ease is derived from the use of the towel, and we are glad to learn that the medical profession strongly testify to its utility and sanitary benefits.

RIMMEL'S AROMATIC OZONIZER AND CASSOLETTA.—Mr. Rimmel, of 96, Strand, sends us his “Aromatic Ozonizer,” an apparatus, we think, deservedly appreciated by all who have to deal with disagreeable or noxious emanations. This preparation, derived from the eucalyptus and pine, diffuses a fragrant odour, which, through the evolution of certain gases, destroys impurities in air, and acts as a natural

disinfectant. The preparation is also sold in liquid form. We have no hesitation in endorsing the favourable opinion formed of this preparation by leading medical authorities. In our hands, it has acted with efficacy in the destruction of disagreeable odours, and diffuses a most agreeable perfume wherever used. In the sick-room, in crowded meetings, on board ship, and in other situations liable to air-impurity, the “Ozonizer” will be found to be invaluable. Mr. Rimmel's “Cassollette” is a handy little box, with a perforated lid, filled with an aromatic powder, capable of being carried in the waistcoat pocket, and well adapted as a handy disinfectant. A specimen of each of these preparations will be sent free by Mr. Rimmel to any hospital, charitable institution, or medical man, on application.

ÆSCULAP.—This mineral water appears to be the perfection of such preparations as are intended to act through a mild yet effective aperient action. The difficulty which many persons experience in obtaining an aperient which can be used with safety is entirely overcome by the use of “Æsculap.” The pernicious and habitual use of aperient medicines is well known to be a fertile cause of disease. Such dangers—all too common in every-day life—would never be incurred, were the use of Nature's own mineral compounds, represented in such a water as “Æsculap,” more general. Many cases of persistent, recurrent, headaches and of internal congestions are now being satisfactorily treated by physicians by the use of this water, either solely or as a valuable adjunct to other remedies.

MESSRS. KIRBY'S “ARMY AND NAVY DOMESTIC MEDICINE CHEST.”—Messrs. Kirby, of 14, Newman-street, W., send us one of their Domestic Medicine Chests. The “chest” is a compact leather case, of the size of a large book, opening, like a miniature portmanteau, in two halves, secured by a strong strap and readily carried in the hand, or packed in a portmanteau or dressing-case. It contains eight neat phials filled with various pills and four phials containing chlorodyne, tincture of arnica, essence of camphor, and sal volatile respectively. A lower compartment contains lint, oiled silk, caustic, court plaster, &c. Each phial is accurately and plainly labelled, and a very handy and concise “Traveller's Guide,” giving the symptoms and remedies for all ordinary diseases and ailments, accompanies the case. Anything of a handier, neater, or more valuable description in the way of a medicine chest, which any educated person may use successfully to combat disease when far from medical advice, we do not remember to have seen. Messrs. Kirby deserve the thanks of the public and medical profession as well, for their enterprise in the production of this elegant little medical *répertoire*. We might suggest that the addition of a phial of chloroform for external use, and of a pair of scissors, would still further enhance the value of this acceptable addition to the wants of the family or the traveller.

TULLOCH'S PURE DUTCH COCOA.—Messrs. Tulloch & Co. send us a specimen tin of their pure Dutch Cocoa, which, after analysis and trial, we can safely pronounce to be a thoroughly pure article, and to fully warrant the encomiums which have been passed upon its qualities by the medical press and by food analysts. As a true food, cocoa should become widely known, and the trial of such a cocoa as Messrs. Tulloch manufacture will tend, we think, to remove many of the objections entertained to the use of cocoa, and undoubtedly fostered by articles of inferior kind overloaded with starch. We must add that the cocoa of Messrs. Tulloch, besides being palatable and nutritious, is likewise a thoroughly economical beverage.



## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

This department of HEALTH is intended to serve as a means of eliciting information on all matters pertaining to Sanitary Science. Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply. We ask the indulgence of correspondents owing to the large number of communications received each week, and many of which necessitate considerable research to ensure satisfactory replies.

Communications intended for the EDITOR to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

Books intended for Review, should be addressed to the Editor of HEALTH, 74, Great Queen-street, London, W.C.

Medical Officers of Health and Sanitary Inspectors will oblige by forwarding their Reports to the EDITOR. Reports of meetings of Sanitary Societies, and abstracts of papers bearing on Health topics, should also be addressed to the EDITOR, at the office. Descriptions of new Sanitary Inventions, Sanitary Appliances, and specimens of apparatus or articles bearing upon and used in sanitation, should also be sent, prepaid, to the office, and addressed to the EDITOR of HEALTH, 74, Great Queen-street, Lincoln's-inn Fields, London, W.C.

TO CONTRIBUTORS.—The staff of contributors to HEALTH being large and fully equipped, the Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

[The EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.]

#### A SOURCE OF INFECTION.

SIR,—In your journal allow me to draw the attention of the public to a common way of spreading infectious diseases. I have a family at present suffering from scarlet-fever who contracted it from the reading of books from a public library. They themselves are further infecting the same books by continuing to read them while desquamation (or peeling off of the skin) is going on. Could the committees of public libraries not recommend that fever nurses should inform them when their books have been used? Unless they adopt some method of preventing this ever recurring source of disease, they may rest assured that their usual patrons will forsake them.—Yours, &c., J. R. H.

#### FOOD.

SIR,—It is generally admitted that air is the very first necessity of life. Deprive us of it only for a few minutes, and we exist no longer. Food comes next to air, and is the second necessity of human life. The very serious question, what are and what are not health-giving foods is a long way off settlement. You suggest for your readers to "cook fish, flesh, and fowl thoroughly, and thus defy invasion by the parasitic hosts." You also allude to a man who was imprisoned for selling "potted" donkey's flesh. Surely the flesh of the donkey must be as healthy as pork, and the latter food is universally eaten by all classes. But why the man who sells donkeys' flesh should be punished, and the many sellers of mules' flesh go free is a puzzle to many. The sausages imported from Italy, and sold by all our first-rate Italian warehouses are made principally from the flesh of worn-out mules. Yet no sanitary inspector ever makes objection. How is this? My more immediate object in addressing you is to

learn what are model foods for man. If it is decided that the flesh of animals is most necessary for our health, how are the bulk of the people to obtain a sufficient quantity of it? "In the treatment of disease" we are informed "the regulation of diet demands particular attention." Does not the treatment of health also demand particular attention? Pure food makes pure blood, and pure blood makes pure health. No doubt "all the joys of sense lie in three words—health, peace, and competence." But are the joys of sense made greater by our war on the animal creation? What "peace" do we give flocks and herds? Is it absolutely necessary that we should for health's sake eat them, and without them life would not be worth having? "Life is not to live, but to live well." Do we live well in eating second-hand food? The bullock eats grass and turnips, and we, in eating the bullock, eat second-hand grass and turnips, and pay dearly for this second-hand article. Your advertisement columns inform us that, "Wheat and oats stand first among our list of cereals in combining all the elements in proportions necessary to support animal life. They are especially rich in muscular and fat-producing elements.—BARON VON LIEBIG." Such being the actual fact, where is the great necessity, especially for poverty, to waste its scarce money on flesh, fish, or fowl?

M. NUNN.

[Our correspondent simply raises the question of a mixed (i.e., an animal and vegetable) dietary *versus* a purely vegetable dietary. We are glad to publish his letter, as a possible means of evoking correspondence on this head. We have made arrangements for the publication, at an early date, in HEALTH of a series of articles on "Food."—ED. "H."]

#### PUFF AND DART.

SIR,—I see a paragraph in your excellent paper entitled "The Perils of Puff and Dart." I think the statements are exceedingly exaggerated. It may certainly be dangerous for novices to engage in this game without somebody to instruct them, but with proper care and precaution an accident is exceedingly unlikely to occur. I may also add that adepts always inhale breath (preparatory to blowing through the tube) through their nose, and not through their mouth, in which case, of course, it is perfectly impossible for the dart to be swallowed. The darts which caused the melancholy death of Dr. Bruce's two patients must, I fancy, have been peculiar ones, for, with proper darts, it is very hard to draw them into the mouth, because the worsted which surrounds the needle in order to fill up the cavity being, so to speak, exhaled, goes with the grain; being inhaled, against the grain. Moreover, the proper length of dart is about 2½ in., which, I should fancy, would be somewhat difficult to get as far as the lungs.—I am, yours, &c.,

PUFF AND DART.

### QUERIES AND ANSWERS.

#### GENERAL.

\*\* The papers on the "Germ Theory" will be resumed next week.

CORDULA.—We mean at a future date to give careful attention to the subjects you suggest, and to publish a series of articles on physical education and the general regulation of school-life and hygiene.

L. LOWSON.—We shall certainly give a series of papers on training and diet in relation thereto at an early date.

#### SANITARY.

A. BURTON.—The fee entitling you to the membership of a Sanitary Association varies, we believe; but, in all cases, is very moderate. The general rate for membership is one guinea a year; and this includes the fee for opinion regarding your premises, when required. Special reports, requiring time and trouble in their preparation, are usually arranged for on special terms; but, in all cases, at a moderate charge. You should write to the Secretary of the Association you propose to join, when you will receive a full prospectus and information regarding the conditions of membership.

VENTILATOR.—We know Banner's system of ventilating sewers. This system admits a constant current of fresh air into sewers, and thus prevents accumulation of those gases which are so injurious to health. We shall give articles on sewer-ventilation in the course of our discussions on drainage and sewer appliances generally.

THOMAS ROBERTSON & Co.—The best books you can read on plumber-work in relation to health are published by Messrs. Crosby, Lockwood, & Co., London. Any respectable Glasgow bookseller will procure them to your order. Buchan's "Plumbing" (3s. 6d.)



is a good book; but you should also consult Professor Corfield's "Laws of Health" (1s. 6d.) (Longmans.) Write to Crosby, Lockwood, & Co., 7, Stationers' Hall-court, Ludgate-hill, London, E.C., for their catalogue of works, and select those which will suit your purpose.

### MEDICAL.

**BRAIN.**—Your symptoms are entirely due to an overtaxed nervous system. You will find the sleeplessness and all other symptoms mentioned disappear under rest, with change of scene. If living inland, try a seaside residence for a few days at least, with a mild tonic of some kind, and careful attention to diet. You do not give any particulars which can enable us to say more regarding your case.

**Cecil Anderson.**—"Hypnotics" are medicines or measures that induce sleep. The term "hypnotism" has been used to denote mesmerism.

**A. R.**—We do not give the names of particular physicians or surgeons; to this rule we can make no exception. You can have no difficulty in discovering the surgeon in your town who is best qualified to treat a case of the kind you mention.

**HEREDITY.**—Your question simply involves a statement of the difference between ordinary affections and constitutional diseases. If you were acquainted with the merest rudiments of medicine, you would have known that what you heard alleged was a sheer impossibility. Consumption and scrofula are both diseases not of one particular organ or part, but of the constitution at large. These diseases certainly often select particular organs for their special manifestation. Consumption, for instance, usually affects the lungs, and scrofula the lymphatic glands; but there are many other organs liable to the attack of the diseased principle which, in each disease, "runs in the blood," so to speak. The treatment of each disease invariably includes constitutional remedies. A fever certainly is, for the time being, a constitutional malady, in that it reigns over the whole frame, with, in each fever, special and local manifestations.

**A. ERSKINE.**—Rigolot's Mustard Leaves are the applications to which you refer.

**F. J. SPENCER.**—Blushing is, as often as not, a constitutional affection. We believe that a person in good health can often control this sign of emotion by an effort of will, strongly persisted in. As blushing is not a disease, we cannot recommend any remedy beyond asking you to cultivate a robust frame of mind, and to gradually throw off the habit.

**A. BEVITT.**—There are no grounds for saying that the camphor in chalk makes the teeth brittle. It would be interesting to know how camphor could so affect hard structures like the teeth. Where teeth become "brittle," (where is the evidence that they so degenerate?) the cause must lie in other directions than the use of camphorated chalk, which is a healthful dentifrice, used for years with success by thousands.

**ATHOS.**—The general, and therefore reliable, experience of medical men is, that in cases of sore-throat from colds, a beard, allowed to grow, protects the throat. Soldiers are subject, both in this matter and in other matters (e.g., dress), to rules and regulations which are by no means of healthy nature. Many persons exposed to the weather find a beard and whiskers great protection to the throat and chest.

**NEPTUNE.**—The "noise" is simply due to the movements of the contents of the intestine, or bowel, and depends most frequently upon flatulence. Try what abstinence from vegetables for a time will do. The cause is due to inactive digestion, or to some allied condition. If above hints do not suffice, write again, giving fuller particulars of life, habits, food, &c.

**ONE IN GREAT TROUBLE.**—By all means see to your general health. Frequently, trouble with the perspiration results from some bodily debility, which a course of mild tonics will cure. There is an affection of the sweat glands in which an offensive odour is exhaled, and in which great benefit is obtained from tonics, from frequent change of the under-clothing, and from washing with a weak solution of alum or salt. Try these remedies, and write again if unsuccessful.

**KAPPA.**—(1) Very difficult to say anything about the pin swallowed fifteen years ago. Curious facts have been placed on record regarding the length of time such foreign bodies remain in the body. It is very unlikely that any harm could now accrue to you. Act on the principle of "letting sleeping dogs lie." (2) Depends on the exact cause of the hæmorrhage. If, during the next eight or ten years (quoting your own words), no recurrence takes place, and the general health remains good, there can be no feasible objection to the step you mention. Any ill effects of the hæmorrhage, or any continuance of its cause, would be almost certain to manifest themselves long before eight or ten years had expired.

**C. BARRIE.**—Do you suffer from enlarged tonsils, or from inflammation of the tonsils? Your phrase "ulcer of the tonsils" is somewhat vague. Can you ascribe no definite cause? If it is a simple ulcerated throat, try a gargle of tannic acid, of the strength of three grains to each ounce of water. Having the throat painted with lunar caustic (or nitrate of silver) solution, of the strength of four grains to the ounce of water (a treatment best performed by a medical man), also relieves inflamed tonsils. Take cod-liver oil and iron internally, and attend to your general health.

**JOHN H.**—Belladonna: yes, a poison.

**AN ANXIOUS MOTHER.**—It is very difficult to free long hair from these parasites, which, by the way, often indicate that the general health is out of order. We should advise you to cut the hair short, as a radical remedy, and to try some "precipitate powder," which any druggist will make up for you on informing him of the purpose for which you require it. The powder is poisonous, and should be carefully used.

### BOOKS, ETC., RECEIVED.

*Convalescent Cookery*, by CATHERINE RYAN (Chatto & Windus). *Lectures on Medical Nursing*, by J. WALLACE ANDERSON, M.D. (Maclehose, Glasgow). *Health in Schools* (Health Primers) (Bogue). *Dwelling Houses, their Sanitary Construction and Arrangements*, by Professor CORFIELD (Lewis). *Disinfectants, and How to Use Them*, by EDWARD T. WILSON, M.B. (Lewis). *What to do in Cases of Poisoning*, by Dr. MURRELL (Lewis). *Voice Production and Voice Preservation*, by GORDON HOLMES (Chatto & Windus). *Diagrams of Human Physiology, with Handbooks*, by Dr. A. WILSON (J. Ruddiman Johnston, Edinburgh). *Health Lectures* (1st, 2nd, and 3rd series). (Edinburgh: Macniven & Wallace). *Modern Dress*, by T. F. PEARSE, M.D. (London: Wyman & Sons). *Insanity: its Causes, Prevention, and Treatment*, by WILLIAM HARRIS, M.R.C.P., etc. (London: Wyman & Sons). *Female Education from a Medical Point of View*, by T. S. CLOUSTON, M.D. (Edinburgh: Macniven & Wallace). *Food and Home Cookery* (new edition), by CATHERINE M. BUCKTON (London: Longmans). *The Dental Record* (London: Dental Manufacturing Co.). *The Family Doctor* (London: W. H. Allen). *Sanitary Houses, and How to Select One*, by F. A. BOND, M.B. (London: Kegan Paul, Trench, & Co.). *Number One, and How to Take Care of Him*, by J. J. POPE (London: Allman). *Health Studies*, by H. S. PATERSON, M.D. (London: Hodder & Stoughton). *The Art of Dress*, by Mrs. HAWES (London: Chatto & Windus). *The House of Life*, by Mrs. FENWICK MILLER. (London: Chatto & Windus). *Mechanical Exercise, a Means of Cure; being a Description of the Zander Institute, London* (London: Churchill). *Economy of Coal in House Fires*, by T. P. TEALE, M.A. (Churchill). *Southern and Swiss Health Resorts*, by WILLIAM MARCET, M.D. (Churchill).

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### HEALTH NOTICES.

The first Monthly Part will be published the latter end of May, and will include Nos. 1 to 7, price 1s. 4d.

### TERMS OF SUBSCRIPTION.

The terms of Annual Subscription to the weekly numbers of HEALTH are as follows:—

	s.	d.
To any address in the United Kingdom .....	10	0
To the Continent, Australia, New Zealand, South Africa & Canada .....	13	0
To the United States of America .....	\$3.25.	or 13 0
To the East Indies, China, &c. (via Brindisi) .....	15	2

All subscriptions are payable in advance.

HEALTH will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# HEALTH

EDITED BY

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LONDON: FRIDAY, MAY 11, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

"THE Perils of the Studio—what next?" will be the popular remark on the ventilation of a warning given against the practice of artists putting their brushes in their mouths by way of bringing the hairs to a fine point. A second practice recently inveighed against is that common piece of artistic carelessness, the use of dirty brushes, or rather brushes with dirty handles. Absorption of the paint by the skin is said to follow this practice—although, indeed, the skin exhibits very slight absorbent power at any time—and cases of poisoning are, therefore, regarded as being likely to result from the use of dirty brushes.

+ + +

OUR contemporary the *Lancet* says that it does not remember to have seen a case of lead-poisoning or "wrist-drop" resulting from the practices above mentioned. We have certainly known of one case in which an artist suffered from lead-poisoning, which could only be ascribed, in the opinion of his medical attendants, to absorption of pigment in some way or other. At any rate, there can be no excuse for sucking the brush.

+ +

MOTHERS who provide their children with paint-boxes might do worse than take the above hints, given to the artistic world, into kindly consideration as a household and parental warning. We believe that children are much more given to sucking paint-brushes than are their elders. One of the "perils of the nursery" is a nice large paint-box, provided with beautiful and poisonous colours, and well adapted, when used in the artistic efforts of children, to produce serious trouble in the shape of mysterious sickness, nausea, and vomiting.

+ + +

EVERYONE has heard of "writer's cramp"—a topic we mean to treat of by and by, and an ailment largely obviated, or even prevented, by the use of the "type-writer." This machine calls the muscles used in writing, and other muscles as well, into play in a different fashion from that demanded by the pen. Artists, it seems, are liable to have the left hand cramped by the stereotyped holding of the

palette-brushes and rest-stick. For persons—such as artists, clerks, telegraph-operators, and others—who have a continuous strain made on one set or series of muscles, we should recommend exercise which is calculated to bring other muscles of the fingers into play, and also to cause the strained muscles to act in a different combination of actions than that to which they are accustomed. If writers were accustomed to play the piano, for example, or the violin, or violoncello, they would be less likely to suffer from their "cramp."

+ + +

AN interesting paper, entitled "A Plea for Health Guilds," by Mr. Alan S. Cole, appears in the new magazine, *Merry England*, which made its *début* at the beginning of May. "If you want a thing well done, do it yourself," is the motto of Health Guilds, and a very appropriate motto it is. People unite together to buy provisions at a cheap rate, or to start a cricket club. Why should we not club together to purchase, through the knowledge and practice of health laws, the greatest blessing of all—good and lasting health for ourselves and our children after us? If A's drains are kept in good order, he may still suffer from B's ignorance of health laws if B's drains are faulty, or if B's fever cases next door are not properly disinfected. Therefore, by all means, let us have "health guilds," if thereby we can encourage the individual pursuit of health.

+ + +

THE summer months are upon us, and the swimming season will soon begin. Then will appear, once again, the dreary, dismal accounts of drownings, chiefly of those who cannot swim. All young people—and their non-amphibious elders as well—should be encouraged to learn to swim. Swimmers are seldom unhealthy—other things being equal; and wisely-ordered exercise in the water is a capital form of healthy gymnastics. For girls, especially, the exercise is eminently to be commended. Hence we are glad to hear that the "London Schools Swimming Club" is doing excellent work in the way of encouraging swimming as an exercise.

+ + +

THE club was established in 1875, and has for its objects the training of male and female teachers and pupils of both sexes in the art of swimming. During last year, 2,094 members joined, none of whom could swim at the date of entry. The number of girls who had joined the club for the present year was far in advance of all previous years. We wish this useful institution all success. It is to be earnestly desired that in all large towns like clubs were established.

+ + +

WHAT is to be done with the sewage of towns and cities? This seems to be one of the great health problems of the future. Sir Joseph Bazalgette says the sewage of London should be carried to the German Ocean, at a cost of six millions sterling. At present the Thames receives a large supply of sewage, but that our rivers should be made huge sewers is against all scientific and sanitary opinion. The idea of sewage farms has not, we believe, anywhere realised the expectations at first formed of this scheme of sewage-disposal. There are, no doubt, several approved schemes for treating sewage so as to form an excellent manure. We are inclined to be prophetic enough to add that the sewage schemes of the future will be modelled after Sir Joseph Bazalgette's idea. We shall probably find it cheaper and safer in the long run to convey our sewage to the sea than to attempt to utilise it.



THE old symbol of the "Red Cross" has generally been associated more intimately with belligerent knights and mediæval heroes than with the healing art. Her Majesty, however, has announced her intention to found a Royal order, to be designated by the above name. This order is to be conferred upon those who distinguish themselves in nursing and tending the sick and wounded of the services.

\* \* \*

It is satisfactory to find that the decoration is not to be limited to British subjects, for "faith, hope, and charity"—the motto of the order—belong to no one nation, tongue, or people. It is also a gratifying thought, that the labours of those who so greatly aid the cause of health and the mitigation of pain and suffering are, at last, beginning to receive adequate recognition. Although the "charity" of the nursing sisterhood is not given to "vaunting itself," and although such service is its own reward, and meets with the grateful recognition of all, yet that the "Royal Red Cross" decoration will be worn with pride by those on whom it is bestowed goes without saying.

\* \* \*

"HOSPITAL SATURDAY," in Birmingham, yielded £4,220 as the day's collection. Other and subsequently contributed sums are expected to swell the amount above £4,888, the total of last year's offerings. Towns where "Hospital Saturday" is unknown, please take the hint. It is an easy matter to place boxes and collectors at street corners to receive the welcome offerings of rich and poor alike, for the noblest of our charities.

\* \* \*

MORE typhoid fever through infected milk. Gateshead and Exeter are this time the melancholy examples of ignorance, or carelessness, or both combined. A London suburb keeps them company with diphtheria, Hendon having distinguished itself in this particular direction. Possibly we shall begin to think of a systematic inspection of dairies, bakehouses, and other places calculated to act as centres of infection, when Macaulay's New Zealander contemplates the ruins of London. At any rate, it seems that, as a nation, we are highly apathetic, even where matters of life and death are so intimately concerned as in the spread of epidemic disease through the lack of plain and simple precautions.

\* \* \*

EIGHTEEN cases of small-pox in one street at Seaham Harbour, Northumberland. Seaham has to thank a sailor who was landed in its midst, in an infected condition, for this favour. A woman, arrested by an intelligent ticket-collector at the Central Railway Station, Sunderland, because she had a suspicious-looking eruption on her face, was declared by a medical man to be suffering from small-pox. Query: To how many cases of that disease may the travelling habits of this lady have given origin?

\* \* \*

SEVERAL correspondents have written complaining that they experience difficulty in obtaining copies of HEALTH from the booksellers and newsagents in their several towns and cities. Our publishing arrangements are of very complete description, and the fault does not lie with the source of supply; but we shall feel indebted to our readers if they will inform our publishers (Messrs. Wyman & Sons, 74-76, Great Queen-street, London, W.C.), by letter or post-card of any case where the difficulty alluded to exists. We may only add, by way of hint to those who have so kindly written to us in our interest, as well as to our readers at large, that, as a matter of business, there can be no difficulty in any bookseller or newsagent procuring HEALTH when it is asked for and ordered.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### PUBLIC CARELESSNESS CONCERNING INFECTIOUS DISEASES.

THERE is never, at any time, a lack of evidence of the fact that the public are grossly careless in their treatment of persons suffering from infectious diseases. The considerations that the disease is infectious, and that it is the clear duty of those in charge of such patients to prevent the spread of the malady to others, are often entirely neglected. We are not over-stating our case, when we say that people seem to forget, conveniently or otherwise, in such cases, the foundation of all morality in the matter of their neighbour's interests. Besides, it is not a question of pecuniary loss alone which the conveyance of infectious disease to the hale and healthy entails. If we affect a sound person with fever, we firstly, as a rule, cause him to suffer the loss of time and money in business; secondly, he has to pay for medical attendance; and, thirdly, he runs the risk of his life, for even the mildest case of fever—to argue the matter on its easiest side—entails a certain risk to the sufferer. Complications of simple fever cases are far from uncommon; and death may form the termination of a case which, at the first, gives the medical attendant no uneasiness. It is not, therefore, to be disputed that the ignorant treatment of fever-patients is a serious evil. That the law regards it as such is, of course, well known, although the requirements of the Public Health enactments are not, perhaps, so thoroughly recognised as measures of absolute necessity and for the public good should be. A person who conveys a person suffering from any infectious disorder, in a cab or other public vehicle, is rightly judged to commit an offence requiring severe punishment; and the law accordingly makes provision for such ignorant or wilful violation of health conditions by fining or imprisoning the offender.

There are, however, very many ways and means by which infection is spread, in a thoroughly reckless and careless manner. A medical man attending fever cases adopts precautions in respect of his health, clothing, and disinfection, which render his chances of conveying infection of the most remote kind. As a matter of fact, we rarely do hear of the carriage of infection by doctors. The morality of the profession, apart from its science, is perfectly capable of guarding the doctor from becoming a walking plague; and this apart from personal considerations, since the doctor's own health is his stock-in-trade as much as is that of the working man. Again, the public cannot be kept too well informed of the all-important fact, that when a medical man encounters in his practice cases of certain diseases, he absolutely refuses to attend other cases, and will go to the seaside or country for a period, that he may become thoroughly free from all suspicion of taint. Thus, if a medical man were attending cases of erysipelas or blood-poisoning, or the more infectious fevers, he would give up attendance in cases of midwifery. A surgeon would similarly be very chary when coming in contact with hospital fever, &c., of performing operations. The medical profession has a high standard of professional morality set continually before it; and the public should know and recognise this fact, and, we may add, attempt to imitate it in their own relations to infection.

The most recent cases which have come under our notice wherein gross carelessness was exhibited in the treatment of infectious diseases by the public, exhibit the aggravated



effects of ignorance in all their accustomed force and power. Dr. Wallace, Medical Officer of Health of Greenock, tells us, for example, in his last report, that three cases of scarlet-fever were introduced into his area from New York. The three children were passengers in an Atlantic "liner," which arrived in the Clyde on January 1st, 1883. They left New York on December 21st, and sickened on board on the 24th, 28th, and 31st December respectively. The ship's doctor—we have been hearing a good deal of late about the youth and inexperience of gentlemen practising on board ships—evidently warned the father that the disease was infectious in its nature. The information, however, was either insufficiently afforded or was not attended to; for, when the father landed, he actually placed his children, suffering from a highly infectious malady, in a tramway car. By this vehicle, the party was conveyed to a railway station. Remaining here for two hours in the waiting-room, these poor children were taken by train to Greenock. Thence they were transported *in a cab, to the house of a friend who keeps a dairy*. A more horrible series of circumstances, viewed from a health-standpoint, can hardly be conceived—leaving out of sight the suffering children and their own dangers from cold. A medical man, who saw them after their arrival at the dairy, had the children at once removed to hospital. The question arises here, Who was responsible for the wholesale spread of infection in this case? If the ship's doctor recognised the infectious nature of the disease, he should certainly have intimated the fact to the port authorities, who would have interfered, and, for the public safety and the children's good, have removed them at once to hospital. Again, the father could not in such a case have been allowed to roam the streets with his three fever-stricken children; and there remains the important question, has the ship been duly disinfected? A ship is as truly a public conveyance as a cab; more truly so in a health sense, when we reflect upon the fact that the occupants of the vessel have to pass a lengthened period on board. It seems clear, therefore, that this is a case in which inquiry seems necessary; and it is to be hoped, in the public interest as well as in that of the ship's officers, that such inquiry has been held.

The second case recently reported is that of a midwife, at Kensington, who persisted in attending cases after having officiated at a case in which the patient died from that highly-dangerous malady, "puerperal fever." This fever is a form of blood-poisoning, and runs a very rapid course with a high proportion of fatal results. It is well known to be highly infectious, and is precisely one of those maladies in which a medical man, once brought in contact with the disease, refuses all other patients until he has got rid of the infection he is well-nigh certain to carry. In 1813 forty-three cases of this malady occurred in Sunderland, and of these no fewer than forty were attended by one practitioner and his assistant. We have grown more learned in the nature of this malady since 1813, and the ethics of the medical profession are clear and decided upon the necessity for the temporary retirement of the practitioner who meets with a case of this fever. In the case of the midwife to which we have alluded, it was found that she had persisted in attending cases after being warned by three or four medical men that her conduct was dangerous and reprehensible. Two deaths at least occurred in the practice of this woman, and other two cases, not fatal in their nature, were also traced to her unwise negligence. The educated midwife is a highly useful member of society, and amongst the poor may, and does, do a large amount of good; but the uneducated and ignorant woman who occupies that position

may be the means of working a vast amount of harm. It is of the highest importance that the contention of the medical journals, namely, that *all* midwives should be educated, examined as to their knowledge, and duly registered, should be forced upon the public attention. The need for such education, as a means of preventing disease and death, is aptly illustrated by the case we have just quoted.

A final instance of public carelessness in cases of infectious disease was given lately by Dr. Simpson, the Medical Officer of Health for Aberdeen. A girl ill with typhus fever was actually sent from Dundee to Aberdeen in a third-class carriage. The girl being very ill during the journey, the windows were kept closed, and it need not be pointed out how, in such a heated and favourable atmosphere, the poison of typhus fever might pass from the infected to the healthy. The fellow-passengers of the girl were, of course, ignorant of the disease from which she was suffering; but such an enormity in the way of criminal negligence on the part of those responsible for the girl's safety needs no comment.

## THE GERM THEORY OF DISEASE.

### III.

In our last paper, we had traced the growth of the "Germ Theory" to the year 1862, when Pasteur published his first paper on the living matter, or "germs," which the atmosphere contained. We also saw that in 1859 Pouchet, of Rouen, had published a strong defence of "spontaneous generation," and had thus asserted his belief in the production of living beings of low type from matter which, once alive, was now dead. We must not neglect, at this stage of our inquiries, to note that in 1836 Cagniard de la Tour made the discovery that "yeast" was in reality composed of myriads of microscopic plants, each measuring about the  $\frac{1}{2000}$ th part of an inch in length. Schwann, of Berlin, discovered the plant-nature of yeast nearly at the same time as De la Tour. The "yeast plants," when placed amid their proper soil, feed and multiply. Minute living beings, by their ordinary living acts, were thus seen to cause *fermentation*. The correspondence or analogy between this action and the production of diseases in human bodies, or the growth of animalcules in infusions, was very close, and evidently struck these observers. A pinch or drop of "yeast" added to a sugary solution, caused the solution to "ferment." The microscope showed that this "fermentation" was the result of the growth and indefinite multiplication of the yeast-plants. Why, then, it was asked, should not other living particles (or germs), sown within the human body, and breathed in from the outer air, possess the power of producing disease? The answer to this question was easy to supply on the lines of thought which the discovery of the yeast-plant had suggested; but the reply was not forthcoming until many years after 1836—not, indeed, until Pasteur came to the front as an investigator of the phenomena of infectious diseases in man and in lower forms of animal life.

Pasteur's work is of very wide and varied character, and extends into well-nigh every department of medical science. In his paper of 1862, on the living bodies, or "corpuscles," which people the air, he showed that many of the floating air-particles, collected from the air of the Paris street, were the "germs" of living beings. Selecting these living germs from the dust specks, shreds of clothing, and mineral particles which formed the greater part of the air-motes, Pasteur sowed them in infusions of matter which were sterile and lifeless. From his sowings of the germs, he



obtained the adult living beings, and in this fashion supplied the link which had been wanting in the connection of the living air germs with their actual source and origin. But Pasteur did more than this. He reviewed Pouchet's experiments. He repeated those of Schwann (mentioned in our last paper), which had been apparently refuted by Pouchet. He showed that Schwann's results were, after all, perfectly correct, and that Pouchet's criticism was, therefore, of none effect. A most interesting result—which Professor Tyndall has worked out with great skill—was likewise attained by Pasteur. He came to the conclusion that air was not uniformly of the same "quality," so to speak, in so far as its germs were concerned. That is to say, the air in some localities was proved to contain germs in greater quantity than was found in other localities. The atmosphere of some localities was, in fact, shown to possess no power of producing life in infusions. Thus, taking his stand on the great Swiss glacier or ice river known as the Mer de Glace, Pasteur—standing himself to leeward of the vessels—opened flasks which had been hermetically sealed, and which contained infusions capable of acting as a suitable soil for living germs to produce their adult forms of life. One only out of twenty flasks opened in the clear air of the glacier developed traces of life on after-examination. In the case of the other twenty flasks opened on the plains, amidst, presumably, an impure atmosphere, eight showed a plentiful crop of living beings.

To the Observatory caves of Paris, Pasteur took twenty-one flasks, holding each a decoction of yeast which had been specially filtered, and which showed itself clear and uncontaminated. This decoction was boiled, by way of killing any life it might originally have contained, and the flasks were hermetically sealed by melting the glass in the blowpipe as the steam escaped therefrom. All contact with the outer air was thus avoided. Ten of these twenty-one flasks were opened in the caves, and only one showed subsequent traces of life. The remaining eleven were opened in the courtyard of the Observatory. All of these latter flasks developed living beings with rapidity. The still, quiet air of the caves was thus practically incapable of developing life. The case of the one flask in which life tardily appeared, only serves to prove the existence of some solitary and special condition—due, possibly, to some accident in manipulation, and certainly not to any cause pointing to "spontaneous generation." The air of the courtyard, teeming with germs, developed life speedily; that of the caves, if it contained germs originally, had, through its stillness, allowed its particles to subside and to filter to the ground, leaving a pure, germless atmosphere above.

In 1861, Pasteur published a treatise on the fermentation of "butyric acid," and described the living particle which, in his opinion, produced the fermentative action. The French wine-traders, prior to 1862, had been much vexed by the changes which their wines were liable to undergo. Their exported wines often became acid and bitter, and hence their commerce was seriously affected. Pasteur, undertaking research into the causes of these commercial disasters, found that each special misfortune was due to a particular "ferment"—the "ferment," in other words, being a *living plant*. Experimenting on this subject, Pasteur was able to show that by heating the wine up to 50 deg. Centigrade, the plants were killed, whilst the wines were uninjured. A simple discovery of this kind—founded, however, let us remark, on previous scientific labours of very exact and laborious kind—may be truly said to have saved the wine commerce of France and other countries from serious, even irreparable, loss. Vinegar was also proved to be produced by a special kind of fungus. Just

as the yeast plant converts grape-juice into alcohol, so alcohol in turn is converted by a fungus into vinegar. The study of failures in vinegar-making also led to important results. Vinegar itself goes bad when it is improperly exposed to the air. This result is due to the growth therein of lower plants. Hence Pasteur was able, through his observations, to show how the exclusion of the plant-enemies of vinegar preserved its health, just as it owed its very existence to plant-growth of another and proper kind.

Pasteur's "Studies on Beer" have placed in the hands of brewers valuable and reliable means of similarly preserving that liquid from destructive change. These labours on the influence of lower plant life or the diseases of fluids, were carried out concurrently with researches on the nature of curious diseases to which the silkworms were liable. This research in turn led to the brilliant discoveries of Pasteur regard the *splenic fever* of domestic animals and the *fowl-cholera* of birds. But to these latter discoveries we must devote a special and illustrated chapter. Suffice it for the present to add that persons who may be given to undervalue the labours of science, viewed from a so-called "practical" standpoint, may find food for reflection in the idea that to Pasteur, France, and the world generally, owe their rescue from much loss and annoyance—not to say, in some cases, absolute ruin. Our gratitude to Pasteur, as a worker in the field of the "germ theory," must be mingled with sincere sympathy when, to quote Tyndall's words, we find that "Pasteur's devotion to this inquiry cost him dear. He restored to France her silk husbandry, rescued thousands of her population from ruin, set the looms of Italy also to work, but emerged from his labours with one of his sides permanently paralysed."

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## POLITICS AND HEALTH.

IT seems to be a perfectly admitted fact and an absolutely unquestioned opinion, that too little attention is paid by all classes of the community to health topics. No class of observers possesses fuller opportunities for ascertaining the immense amount of ignorance which prevails regarding the causes of disease than medical men. They are unanimous in their testimony that want of common knowledge of health-laws lies at the root of most of the grave disorders that affect mankind, individually and collectively. This ignorance, we regret to say, is of very widespread nature. It is not limited to the poor, but extends to the rich and well-to-do classes. It is not only the labourer's cottage, but the mansion also, that tastes the miseries of preventable maladies. The upper classes disregard health in their own ways, just as the labouring classes exhibit their special means and methods of courting and inviting the inroads of disease. If the labourer has his intemperance, his want of nourishment, his damp house, and his pig-stye, as the means of breeding disease, the middle and upper classes possess their bad drains, their late hours, their artificial life, and even their fashionable follies in the way of dress, as the methods whereby ill-health may be surely engendered. Lamentable as is the truth, that truth must be fearlessly faced—namely, that there is the most pressing need for a knowledge of health-laws amongst rich and poor alike, and that until such knowledge is gained, we can never hope, as individuals, families, or communities, to be free from the perennial scourge of pain, disease, and death.

But the question of health-knowledge presses very heavily indeed upon the working and poorer classes. The middle-classes possess, as a rule, ample means of warding off disease. They can command medical attendance, and can insure, if not luxury, at least reasonable comfort when illness invades



their home. It is very different, as we all know, with the poor. If we have them always with us, it is not a whit less true to say that disease and death is ever present with them in turn. Their life—nay, sometimes the very labour that wins their bread—may induce disease. Witness, in proof of this fact, the phosphorus-disease of match-makers; the “coal-miner’s lung,” or the “needle-grinder’s chest” complaint. Their dwellings are often unsanitary in every respect, and their children are left to grow up amid the foul air and filth which accumulate, of necessity, in the close alleys and lanes of our manufacturing centres, where space about houses is unknown, and to which the free, pure air of heaven is an utter stranger. Neglect of the laws of health brings with it to the poorer classes of our land an ever-present Nemesis in the shape of ailments that undermine health and qualify for the early grave. The only alternative aspect—and it is a true piece of Job’s comfort, after all—arises from the fact that the masses have never known anything else than this “hand-to-mouth” and chance health; they have never known what it is to be free from disease. Those “better days for working people,” of which the late Rev. Dr. Guthrie wrote long ago, have not yet dawned in the matter of health. And the reason is not far to seek. Until the people can be made to understand what is possible and easy of accomplishment in this matter of health, they can never hope to elevate themselves into that physical newness of life which is the sure foundation of all social happiness and moral prosperity.

We have entitled this article “Politics and Health,” because we wish to lay down the plain principle, that no reformation can be expected in health matters until we find sanitation claiming a share of that attention which is now given to the contentions of political parties. It does seem strange, when the matter is fully and freely discussed, that so much attention should be paid by all classes to politics, when the infinitely more important question of health is neglected. When men are perishing for lack of sanitary knowledge, and when thousands are being cut off in their prime because a preventible disease has been allowed, through ignorance, to spread itself broadcast, it appears to be a practice little short of madness to educate ourselves in politics at the expense of our lives. Not that the masses should eschew politics—such is not our contention. Every intelligent person, man or woman, has a perfect right to form intelligent conceptions concerning the manner of rule and the modes of government which he or she regards respectively as best and worst. It may be added that health questions are also matters involving political and legal aspects, and that a knowledge of political affairs may therefore, in some degree, assist the comprehension and advance of sanitary science. But the all-absorbing interest with which politics are regarded, and the intense devotion paid to matters which are, after all, frequently of trifling importance, save to a limited few, are to be decried, when we see the health wants of the masses staring us boldly and persistently in the face. It is not a question of politics first and health afterwards. Neither common-sense nor the grim irony of facts permits any such idea to remain unrefuted. It is health first, and above all things else; it is healthy bodies and healthy homes that form the foundations of the State; it is national health which is the sure foundation of all prosperity and greatness.

The lines of Pope may well be quoted in respect of health and politics:—

“For forms of government let fools contest,  
 Whate’er is best administered is best;  
 For modes of faith let graceless zealots fight,  
 He can’t be wrong whose life is in the right.”

The only “right” in the vital matter before us, is a well-ordered life, physically and mentally. Those alone can afford to play at politics, whose lives are ordered through a knowledge of health-laws and health-conditions. We make bold to say that if one-tenth part of the attention now paid, without any profitable result, to politics, were bestowed on health-questions, the social improvement which would ensue would be nothing short of marvellous. Men armed with grievances of political kind, and smarting under a sense of wholesale wrong, have before now risen in anger, and swept a Government from its seat. Revolution, not always wise, and only rarely justifiable, has cleansed the political atmosphere, and made a nation free. The wise amongst us desire only reform, not revolution, in the matter of health. If revolution comes, it will be a bloodless one, and one which seeks to depose death, pain, and misery from their thrones, and to establish a reign of mercy, peace, and happiness for all. This is what health-reformers hope for and work for. Their cry is, “Health! more health!” But it is only when they can rouse the nation to an appreciation of what health is and means, and of the happiness which awaits those who follow the teachings of Nature, and of Nature’s minister, Science, in the regulation of life, that they can expect the new era to dawn. There is a great future before the nation which, as a nation, will follow after health. When we strive in a national sense to follow more after health, and to care less about the fashion in which political straws are blown hither and thither, may we, in the language of Cowper, “be there to see.”

EXCESSIVE SWEATING OF THE HANDS AND FEET.—Naphthol has been recommended as an effective remedy against excessive sweating of the palms of the hands, foot-soles, and arm-pits. These places should be moistened once or twice daily with a mixture of

Naphthol .....	5 parts.
Glycerine .....	10 ”
Alcohol .....	100 ”

and afterwards dusted, either with pure starch or with a mixture of

Naphthol .....	2 parts.
Starch .....	100 ”

In the case of sweating feet, small pellets of antiseptic cotton are dipped in the powder and placed between the toes.—*Zeitsch. f. Diagn. and Ther.*

INFANT’S BAND.—Dr. Hamilton, of Hawick, N.B., sends us a sample of a woven “infant’s band” recently described by him in the *Lancet*. This band (which is made in various sizes) entirely does away with the clumsy binders, and obviates the dangers to infants incurred by the use of pins and cords. Many an infant’s frame is deformed by the injudicious use of binders, and the band will therefore commend itself to all mothers and nurses. Messrs. Arnold & Sons are the agents for these bands in London.

DISEASE OF THE NOSE AMONG WORKERS IN CHROME SALTS.—The *Manufacturer and Builder* says that more than half of the workmen in a Russian factory where bichromate of potash is made, have been found to suffer from ulceration of the lining membrane of the nose, which in many cases, results in the destruction of the nose-division. Not all are subject to it, some showing marked evidences of trouble after only a month’s exposure, while others are unaffected after ten years’ occupation in the works. The early symptoms are tickling of the affected part and bleeding, but no other discomfort is experienced, the destructive process being quite painless. A slight depression of the nose is generally the only external evidence. The disease does not extend to the other air passages.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### V.—THE HAIR (*Continued*).

BY DR. ANDREW WILSON.

THE care of the hair is a feature of social life which demands special attention, and which, in the sense that the hair is in itself a natural ornament, is always certain to receive a very fair share of attention. There is no need—for the present, at least—to insist upon the folly of inattention to the hair; but there is a very distinct need for the correction of some popular notions regarding the treatment of the hair from a health point of view. For example, it is a common, but thoroughly erroneous, notion, that washing the hair frequently, is a common cause of premature greyness, of dryness, of falling out of the hair, and of consequent baldness. It should be very distinctly borne in mind, that all the evidence at hand really points the other way. If the hair is short, there can be no feasible objection—on any score of possible injury, at least—to a daily head-bath. Every one ought to wash the head at least once a week. Authorities tell us that this practice, properly carried out, actually keeps the hair from becoming prematurely grey. One thing appears tolerably certain—namely, that the great bulk of us do not wash the hair as frequently as we ought. The hair attracts a vast quantity of dust; and the dirty state of the scalp must certainly prevent that perfect nourishment of the hair-roots, described in our last paper, and which forms such a necessary part of the healthy nutrition of these appendages.

An author, Dr. Pincus, remarks ("The Hair and its Treatment."—London: Chatto & Windus) that "some people's heads perspire so little, their skin desquamates (or "scales off") so little, and they use so little oil or pomatum, that the daily combing of the hair suffices for cleaning, and no washes are required. If washing be necessary, but only required every month, soapy water may be used. On the other hand, the constant use of soapy water causes considerable irritation, and a sensation of strain and dryness, often followed by increased formation of scurf." The best wash for the hair is *white of egg* (the yolk is not so effective or useful), which should be well beat up. The white of egg is preferable to the yolk in the eyes of some authorities, because it does not require so much water to free and cleanse the hair after its use. *Borax*, a very common hair-wash, certainly tends to render the hair brittle and dry. A good hair-wash, recommended by Pincus, is composed of a tablespoonful of *pâte d'amandes*, wheat, or rye bran, which is put into a saucepan of boiling water, and boiled from two to five minutes. This should then be strained through linen, and used luke-warm or cold, as preferred.

After washing the hair, it should be thoroughly dried, and as nature's own pomade (provided by the *oil glands* of the skin) has been washed off, a little oil or pomatum should be used to supply the place of the natural oil secretion. The oil penetrates best, just after washing and when the hair is quite dry.

Concerning the use of oils for the hair, there are many excellent and safe preparations at hand. Those who prefer a simple pomade—and, as a rule, the simple pomades are the safe ones—will find in the various preparations of *Vaseline* a capital medium for their purpose. A mixture of *Vaseline* and cold cream forms a very safe pomade; whilst the

"Vaseline Pomade" itself, prepared by the Chesebrough Company, and sold by all druggists, may be recommended as an article of pure composition. "Vaseline" itself is a principle extracted from petroleum. Cocoa-nut oil is often also used in conjunction with Vaseline, and a drop or two of eau-de-cologne or other scent may be added to the pomade. An important health-caution in dealing with this topic is that of guarding against using *rancid* or *sour* pomades. Pomades containing much wax, fail in oiling the hair properly; other preparations containing vegetable oils are also recommended. Messrs. Rowlands' preparations for the hair may also be mentioned as reliable and safe articles, which have stood the test of a very long period of public trial. There is one affection of the hair for which a plentiful use of oil is recommended, and that is the "splitting" of the hairs. Dr. Pincus, before quoted, strongly insists upon this latter remedy.

The use of the *hair-brush and comb* is in itself a topic of high importance. A prevalent idea is that which asserts that frequent brushing and stimulation of the scalp with a hard brush is the proper treatment of the hair. Nothing is more contrary to scientific experience and fact. All authorities on the treatment of the skin and hair agree in saying that the use of a hard brush, as too commonly used, is destructive to the hairs. The skin is irritated by hard brushing. The hairs are broken and bruised by such treatment, and the idea that scurf is removed by this practice is delusive, for scurf forms faster than before. *The hair-brush, therefore, should be soft.* Dr. Pincus says, "to work away at the head, to smooth naturally curly hair, or, as is sometimes intended, to curl smooth hair, or to remove all the scurf from the head," is "very pernicious." The ordinary hair-brush, of soft texture, is as good a brush as one need use. The bristles should not be set too closely, or be too stiff in texture. The *wire brushes*, now common, are also useful. Their excellence is derived from the same conditions which make an ordinary soft, pliant hair-brush pleasant to use.

The style and influence of *hair-dressing* is a topic of importance to the fair sex. Every health-reformer is bound to express his or her gratification that the days of the chignon and of hair-pads are past and gone. The present or Grecian style of dressing the hair, in which pads are dispensed with, and the hair is gathered into a simple coil behind, is undoubtedly a return to a classic and healthy fashion. There may be objections on the score of taste—itsself a variable condition—to the "boy's" or short-cropped hair as a feminine style; but where health-considerations intervene, there need be no objection to the adoption of this latter mode, especially for girls. Many diseases and weaknesses of hair are clearly traceable to the reign of the chignon. For once in its existence, "fashion," the much-abused, has led directly to a much-needed reform in the matter of feminine hair-dressing. It is only to be regretted that what is rational in the modern head-dress does not extend to the chest and to the feet. But our fair readers should be told that singeing the hair is of not the slightest use as a measure for hair stimulation, and the frequent use of the "curling-tongs" cannot but be detrimental to the health of the head-covering.

We shall consider the further history of the hair and its health in future papers.

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THE *Philadelphia Medical Times* perpetrates a joke at the expense of the "faculty." A busy doctor returned a certificate of death, but accidentally filled in his own name in the space intended for "the cause of death."



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### V.—THE FUNCTIONS OF OUR FRAMES.

BY A. J. MANSON.

LIFE, viewed from a scientific standpoint, has already been shown to consist of a series of duties, or "functions," as they are named, performed by the various "organs" of the body. Health, in a scientific sense, is merely the harmonious working of these various organs. To understand the general principles on which our lives are regulated, we must endeavour to learn something respecting the manner in which the "duties" of life are performed. Such an inquiry involves a knowledge of the nature of the organs which work, and of their relations to each other. This study is simple, yet of interesting kind; and in the course of a brief scrutiny of the subject, we may learn much from the labours of the zoologist and botanist, whose spheres closely interweave themselves with the ways and works of human physiology itself.

When we study man, or any other animal, and when we similarly seek to know something of the manner in which plant-life is carried out, we find it possible to include all the functions or duties of life under three heads. There are three main functions performed by all animals and plants, from the lowest to the highest of each series. Firstly, stands out in prominence the *function of Nutrition*; under this head we include every duty or action which contributes to the maintenance and nourishment of the body of the *individual* animal or plant. Second in order, we discover the *function of Reproduction*, through which the *species* or *race* is maintained numerically in the world, and which makes good the constant loss that death entails on the ranks of animals and plants. Thirdly, we discover the function of *Relation*—or *Irritability*, as it is sometimes named. It is through this latter series of actions that the animal or plant brings itself into "relation" with its surroundings in the world. The function of "relation" is just another and convenient way of expressing the duties of the *nervous system*, which in animals (or its equivalent in plants) brings the living being into "relation" with the world in which it lives. Now this is a tolerably simple, yet comprehensive, view of the duties of life. There is no action of life which cannot be brought under the category of one or other of the above duties. If we ask, for example, what the skin does, we are told that it acts as an organ for the distribution of heat, for protection, and for the getting rid of waste matter—the sweat. As each of these duties clearly aids in maintaining the body of the individual in health and in its natural state, it becomes clear that the work of the skin falls to be included under the function of "Nutrition." The work of the brain in thought, of the eye in sight, or of the ear in hearing, brings us in each case into more or less perfect relation with the surrounding world. Hence, it is clear that these acts fall to be included under the function of "Relation." When the plant flowers, and produces "seeds," each of which is competent to produce a new plant; or when the animal, by budding, as in lower life, or by the production of eggs, as in higher existence, gives origin to a new being, which reproduces the form and likeness of the parent; we see clearly enough that this

latter phase of life belongs to the function of "Reproduction."

Following up these ideas, we learn next that in the study of any living being it is convenient to group the organs and parts of the body into sets or "systems." The body of a man—to select our special study as an example—so far from being a collection of disconnected parts, is in reality made up of varied series of organs, which work in groups. Each group of organs, moreover, whilst possessing a distinct function, shows a more or less intimate relationship with other groups, and in one sense the *nervous system* itself may be regarded as the special means whereby all the parts and systems are linked together in physical unity and harmony. A complete catalogue of the bodily belongings might be compiled somewhat after the following fashion:—Taking, firstly, the word "nutrition" in its widest sense, we might say that under this name might be included the *skeleton* itself, which, in turn, is divisible into the *outer skeleton*, consisting of the skin, hairs, nails, and teeth, and the *inner skeleton*, consisting of the *bones* themselves and their *cartilages* (or "gristles"), together with the *ligaments* that bind them together. Next in order would succeed the *muscular system*, forming the "flesh" or *muscles* of the body, and serving as the means of *movement*. Then the *digestive system* or *alimentary tract* would fall to be considered. The mouth, gullet, stomach, intestine, and the *digestive glands* (such as the liver, sweetbread, and salivary glands, &c.) together constitute this latter system of organs devoted to the preparation of the food for its conversion into blood. Succeeding the digestive organs, we would consider the *blood system*. The *absorbents* of the body, the *heart*, and the *bloodvessels*, fall under this latter designation, together with the *spleen*, and certain other glands connected with the blood and its elaboration. The *excretory organs*, consisting of lungs, skin, and kidneys, next appear on our list. After the blood has discharged its work of nourishment, it becomes laden with bodily waste. This waste is got rid of by the lungs, skin, and kidneys, which thus assist the body in the important work of its nourishment.

The foregoing estimate includes the greater part of the body's possessions. Incidental to the work of reproduction in animals and plants we find special organs. The *nervous system*—consisting of the *brain*, *spinal cord*, *sympathetic system of nerves*, *organs of sense*, and *nerves*, &c., at large—forms the apparatus whereby we exercise the function of "relation," and whereby, also, the different "systems" of our frames are brought into harmony with one another.

Included in the knowledge of each system of organs we find the "microscopic" structure, or that of the minute parts or units of which each organ and tissue consists. Each "tissue" of our body—bone, muscle, nerve, sinew, skin, &c.—can only be understood truly and thoroughly when we know what the microscope teaches us concerning its build. The manner in which the organs perform their work is, after all, a matter largely of microscopic teaching, so that a special study—that of *histology*, or the minute structure of organs and parts—forms the foundation of anatomy and physiology, just as the question of *food* and its chemistry interweaves itself with the study of digestion and nourishment at large.

The foregoing list or scheme of topics may serve as an index to the manner in which the details of popular anatomy and physiology will be laid before the readers of HEALTH. It is hoped that in such a study—second to none in interest, or in importance in relation to health preservation—the motto—"Know thyself" may find a thoroughly practical application, as well as an apt illustration.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

#### V.—DISINFECTION AND DISINFECTANTS.—(Continued.)

SUCCESSING the *oxygen gas* of the atmosphere as the first of our natural disinfectants, we may enumerate the *ozone* of the atmosphere. This gas is an altered, or, as the chemist terms it, an *allotropic* form of oxygen. We do not know sufficient of its nature to say much respecting its action as a disinfectant, but it is believed to exhibit all the powers possessed by oxygen over organic matter, in an increased degree.

*Heat and cold* are natural disinfectants, and the former is employed with success by mankind in killing off from clothing, &c., the germs of disease. The experience of naturalists and other experimenters comes to our aid here, through the determination of the degrees of heat and cold which serve to extinguish the life of lower forms of animals and plants. We know, however, that as regards cold, some of the lower plants (*e.g.*, the Red Snow Plants) are able to grow and flourish, constitutionally and naturally, under an Arctic temperature; and it is probable that, as regards disease-germs, the susceptibility to cold cannot be relied on as a means of disinfection. Extreme cold prevents putrefaction and decay of animal and plant bodies—a fact utilised in the conveyance of meat in ice-chambers in ships. But extreme *heat* acts as a destroyer of organic matter, and in the light of this certainty, it has always found favour in the eyes of sanitarians as a disinfectant. For the utilisation of heat as a means of disinfection, a special apparatus has to be employed. The best known of such apparatuses are Dr. Ransome's "Disinfecting Stove," made by Goddard & Massey, of Nottingham; the "Patent Disinfecting Stove," of Bradford & Co., Salford; and Dr. Scott's "Hot-Air Disinfecting Chamber," made by Maguire & Son, of the "Dublin Sanitary Works" of Dawson-street in that city. In these chambers and stoves, hot-air is the medium of disinfection. They may be built of brick, and possess inside supports on which the infected articles can be spread out. These supports should be *wooden*, and not metallic in nature.

The experiments of Henry, Roberts, Baxter, Tyndall, and others have provided us with data of important kind, serving for the determination of the degree of heat necessary to kill the germs of disease. If the "matter" used in vaccination (this matter being allied to fever matter in nature) is exposed for three hours to a temperature of 140° Fahrenheit, it was practically rendered inert and powerless. A heat of 120° Fahrenheit did not, however, produce this destructive effect. From Tyndall's experiments, it is clear that the death-point of germs varies greatly, and depends in a very intimate fashion upon the nature of the germs. Old germs contained in hay, for example, resisted with success, and developed after prolonged boiling, which kills younger and less hardened living particles. A temperature of, say, 220° Fahrenheit (equal to 104·5° on the Centigrade scale), kept up for two hours, is probably sufficient to destroy any fever-germs or other infectious matter, although certain recent conclusions, to be hereafter noted, appear to qualify this statement. An important consideration in the use of hot-air chambers and of heat generally, in disinfection, consists in the caution to spread out all articles of clothing, and to

open out such articles as bedding, &c., so as to allow of the full and free action of the heat on all parts of the infected material. Through inattention to this plain and readily-remembered rule, the work of disinfection by hot air may be rendered futile. All large towns should be provided with disinfecting chambers, in which the clothes, &c., of the fever-infected could be readily and gratuitously freed from the fever poisons. In Manchester, for example, such apparatus is provided; and as the poor cannot afford to lose their clothing or bedding by its destruction—a process to which even the rich and well-to-do often object—the knowledge that disinfection is provided at the expense of the city would obviate many a temptation to spread disease by the wearing and use of infected garments. Dr. Russell, the Medical Officer of Health of Glasgow, states that in the Infectious Diseases Hospital of that city, the ordinary process of boiling and washing the clothes, suffices for disinfection, and no case of infectious disease, after careful investigation, has been known to be caused through the simple practice thus followed. But in a fever hospital the clothes are rigidly supervised in their transit from the patient to the washhouse; and, as has been remarked, doubtless the soda used in the washing aids the work of disinfection. In a private house, this process could not be followed without great risk, owing to the infected clothing being allowed to lie about, or being carelessly handled before conveyance to the boiler. It is well to note that recently Koch and Wolfhügel, of Germany, experimenting upon the power of hot air in disinfection, have reported that a heat of 100° Centigrade, maintained for an hour and a half, destroyed the bacteria or organisms which cause disease. A higher temperature (100°–115° Cent.), maintained for the same time, was required for the destruction of the spores or germs of plants. The bacilli, or minute plants, found associated with many diseases, require three hours' exposure to a heat of 140° Cent. to kill them. These observers also inform us that hot air penetrates clothing so slowly, that small objects (such as a bundle of clothes) kept in for three or four hours in a heat of 140° Cent., were not properly disinfected. If the latter heat be maintained for five hours—a period these observers incline to think necessary for sure and certain disinfection—most articles are found to be injured by the exposure. These conclusions, if borne out by subsequent investigation, will certainly tend to modify somewhat the opinion already expressed, that a heat of 104·5° Cent. (*i.e.*, 220 Fahr.) maintained for two hours will destroy all chance of infection. The experiments just noted only serve to show again that there probably exist immense differences in the susceptibility of different poisons to the destructive influence of heat. At present we may regard it as proved by the wide experience of medical men and health officers, that two hours' exposure of clothing, etc., to hot air of a temperature of from 220° to 240° Fahr., is amply sufficient to purify infected articles from all ordinary chances of spreading disease.

It is well to add that even if the boiling of clothes in the washhouse be trusted to for their disinfection, then the articles should be plunged immediately on leaving the patient in a solution of carbolic acid and water (5 per cent. strong), or in chloride of lime (2 oz. to the gallon), or in chloride of zinc (1 to 240 of water).

An interesting observation, likely to be of use in the family circle, consists in the fact that if glycerine be combined in equal proportions with castor oil, the action of the latter is rendered more certain. By adding the oil to the glycerine gradually, and mixing the two in a mortar, the taste of the oil completely disappears.



## Healthy Houses

"A happy home must be a healthy home."—Anon.

### OUR WATER SUPPLY.

By W. IVISON MACADAM, F.C.S., F.G.S., &c.

(Lecturer on Chemistry in the Edinburgh School of Medicine.)

#### FIRST PAPER.

For the preservation of our health it is essential that the various articles of food with which we sustain our bodies, and which supply the materials necessary to repair the disintegration of tissue due to work, be fresh and free from all contamination. In the term food must be included not only solid materials, as bread, beef, and the like, but also the as necessary supplies of air and water. In ordinary solid foods it is generally possible, by means of the senses, to form an opinion as to the quality of the article, but with air and water the case is different.

The sources of our domestic water supplies are very various. Sometimes the water is collected from the surface of the ground or from the roofs of our houses; occasionally also from stagnant pools; or we may go to a spring, sink a well, or lead a pipe from a river. It is the object of this article to consider these various sources of supply, and to point out wherein they differ from each other.

The waters derived from the positions mentioned are not similar in taste, and sometimes vary in colour, or even in smell. The common source of all water is rain or dew, which, falling on the surface of the earth, may either be absorbed by the soil, run off the rock, or collect on the surface of a clay bed or other impermeable material. We all know how readily water dissolves salt or sugar, and yields us afterwards a perfectly clear solution which, so far as general appearance goes, we could not distinguish from the liquid we started with. Now, the soil contains many minerals, soluble in water, which differ greatly both in quantity and quality in various districts, depending mostly on the rock from which the soil was originally formed. The principal minerals present in the soil and soluble in water are combinations of lime, magnesia, and soda, with certain acid bodies, such as sulphuric and carbonic acids, and with chlorine. The water, also, in passing through the air, dissolves out of it oxygen, nitrogen, carbonic anhydride (commonly called carbonic acid), and any sulphurous and sulphuric acids it may contain. So aerated, it can then dissolve other ingredients from the soil, such as chalk and carbonates of magnesia and iron. We can now understand how it is that our domestic waters are so very various in character. Soils in chalk districts will yield waters containing much of that substance in solution; those from gypsum soils much sulphate of lime in solution; and from sources near the sea much common salt, &c.

The ordinary salts, then, present in waters may be said to be sulphate and carbonate of lime, chloride of sodium (common salt), with smaller proportions of magnesian carbonate and chloride, and occasionally carbonates of iron and sodium. Sometimes the soil contains a large amount of some particular salt, such as sulphate of magnesia (Epsom salts), chloride of sodium (ordinary salt), &c.; or gases may be dissolved by the water, such as sulphuretted hydrogen, when we get what is known as a mineral water or saline spring. Throwing out the latter mineral waters, which, from their taste or other properties, we cannot use for domestic supply, we find that the remainder are not all equally useful for cooking and drinking purposes. This

depends mainly upon the proportion of lime and magnesia salts present in solution; for if these are largely present, the water will be *hard* in its properties, and will not be so good for cooking and washing as when these salts are in smaller quantity. The reason for this is, that in boiling food the lime or magnesia salt will combine with the albumen of the meat and form an insoluble "albuminate," which, coating the surface of the food, will not allow of the juices passing out and forming soup, and at the same time will be very much less digestible. For similar reasons, good tea cannot be made with such waters; whilst in washing there is much loss of soap from the formation of an insoluble compound between the lime of the water and the fat of the soap, and which curdles on the hands or finds its way into the tissues of the cloth, and is with difficulty removed. Whilst, therefore, no harm may follow the use of hard waters for drinking purposes, yet such are not advisable for cooking or washing.

The waters containing a considerable proportion of lime-salts are termed *hard* waters, whether the compound present be the sulphate (gypsum or stucco), or carbonate of lime (chalk). As, however, the latter class—that is to say, those containing carbonate of lime, or magnesia—can have those ingredients removed from the water, and thus render them more suitable for cooking and washing purposes, they are usually defined as *temporary hard*; whilst such waters as contain the soluble sulphate of lime, and which we cannot soften without injuring the water for domestic use, are called *permanently hard* waters.

ECONOMY IN SANITATION.—This was the title of an elaborate statistical paper recently read at the Society of Arts by Captain Douglas Galton, C.B. He urged that the sanitary works in our houses, which are necessary adjuncts to the diminution of preventible disease, can be effected economically, and that a great saving to the community will arise from the diminution of preventible disease. As to house sanitation, local authorities should not stop at inspection, but they should undertake the proper construction and reconstruction of house-drains. The work would be done more economically than now, and, being well done, it would afford a means of effectually checking disease. The improvement effected in sanitary administration and in the habits of the people may fairly take the credit of a reduction in the mortality of about 2 per 1,000, taking into account increased density of population, which, with unchanged hygienic conditions, would increase the mortality. This represented an annual saving of about 48,000 lives in England and Wales, excluding London. In 30 years the mean age at death had been raised from 28·4 to 29·6, equal to 4·2 per cent.; but in males above 20 it was only 1·4 per cent. London, with a density of 25,761 per square mile, was more healthy than other districts with 12,357 per square mile. If we could introduce into our towns generally the mortality of the healthy districts, we should diminish our death-rate and sickness by nearly one-fifth. Where children could have fresh air, their probabilities of life were much prolonged; and it was of more importance they should have pure air than abundance of food. In the metropolis generally the mortality of children under 10 was 47·66 per 1,000, while in the improved dwellings, which had a good circulation of air all round them, it was 24·04 per 1,000. Other figures showed that the conditions of occupancy in the improved dwellings were as favourable for infants as for persons of riper years. Infant mortality was a safe index of sanitary conditions, and it was evident that the various improved dwellings



afforded a solution of the question how to obtain, in densely crowded areas, dwellings in which the poor could live healthily. While it would be better, if it were possible, to locate them in country cottages with gardens, we must acknowledge the facts that many could not afford to ride to and fro, and must live near their work. Where private enterprise failed, the municipality should be required, not only to pull down insanitary dwellings, but to provide new and improved dwellings in the place of those condemned. The education we were giving would be dangerous rather than beneficial if we allowed the wretched dwellings which existed in the metropolis to continue. If all known insanitary conditions were removed, the direct saving from diminished sickness and funerals would be nearly half-a-million yearly, and this would pay 4 per cent. on £12,500,000, which would afford ample funds for the erection of proper houses for the poor. It was important, in the pending municipal reorganisation of London, to secure such concentration as was necessary to obtain efficiency and economy in sanitary administration. The chairman, Mr. Rawlinson, C.B., urged that this was a question urgently demanding the attention of statesmen, both abroad and at home, and especially in some of the health resorts of the Continent. An interesting discussion followed, and closed with a cordial vote of thanks to Captain Galton.—*Times*.

**FILTH FOUNDATIONS FOR HOUSES.**—Although Mr. Justice Fry, in his recent decision in the trial of *Goodacre v. Watson*, may have trespassed beyond the limits of the case immediately before him, yet the general public cannot fail to be grateful for a summing-up which will probably do more to save them from having their future houses built upon refuse and filth, as they often have been hitherto, than anything which has occurred within recent times. Mr. Watson was in the habit of shooting on to a piece of land within the district of the Fulham Board of Works the scraping of roads, sloppy or otherwise, and the contents of ashpits from Fulham and from Kensington. After certain processes of sifting, the "soft core" was placed under 4 ft. or 5 ft. of earth, with a view of being made the foundation of houses for human habitation; and it was this monstrous practice, and the still more monstrous attempt to justify it, that Mr. Justice Fry denounced in such strong terms, as being calculated to bring disease and death into households. In a letter addressed to the *Daily Telegraph*, the medical officer of health for the Fulham District endeavours to shield his authority from some of the rebukes dealt out to them by Mr. Justice Fry, and he explains that the plaintiff in the case complained to them as to the nuisance, and that "directly they were informed that a nuisance had been created," they instructed their officer to advise them on the subject. Now, it is here that, in our opinion, grave error has arisen, and constantly arises. It is the duty of a sanitary authority and of its officers to make themselves acquainted with the conditions within their district which are calculated to cause nuisance and injury to health, and to deal with them without waiting for private individuals to complain or to take proceedings in courts of law. The same filthy preparation for house foundations has long been in progress in many parts of London, its continuance is well known to the authorities, and those who, to use the Judge's words, think it "consistent with their duty to allow these things to be shot on to land," and who fail to initiate action for the protection of their constituents, deserve every word that was said with respect to such a course of proceedings by Mr. Justice Fry.—*Lancet*.

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson*.

### SCHOOL LIFE AND HEALTH.

By C. O. WAKEHAM, M.A.

THE work of educating the youthful mind does not stand alone in respect either of its importance or its interest. There probably never was a time when the work of the teacher was estimated at a higher rate or value than it is to-day. We all recognise—teachers and parents alike—that the process of education, like that of building a ship, is in itself a final and vital affair for all concerned. The fate of the individual depends on his own special training, just as the destiny of the ship is largely a matter of honest carpentry and building. What we have to see to in these latter days comprises—firstly, the excellence of the workmanship under which the educational product is turned out; and, secondly, the relations of common education to other branches of knowledge and science. We may leave Boards and Committees, as well as the spirit of the teaching profession, to settle the best modes and methods of imparting instruction. The question, "What things should be taught," is rapidly answering itself. We hear less now than formerly of the struggle between the classics and science, between dead tongues as a means of culture, and the observation of living nature as presenting the best possible means for educating the growing mental powers. Sensible persons no longer quarrel about the place of science in education; nor do they doubt that the classics have their own place and power as items in the training of youth.

These things are part and parcel of educational systems. They belong to the purely "schoolmastery" side of educational affairs. But there loom before the teachers of our day other topics that are certainly not less, but even more important than debates on modes of imparting knowledge. And amongst these topics, the relation of education to health stands out a long way before the rest.

When a parent sends his boy or girl to school, he is entitled to lay the unction to his mind that, during the period the child is under the teacher's eye and care, no injury to the child's health will be inflicted. Tacitly, as parents, we accept this proposition. Actually, as parents and teachers, we find that little or no attention is paid to the health-aspects of school-hours. Let us take one or two examples of ordinary school life, by way of illustrating our contention. Primarily, there is the sore question of wet feet, chills, and colds. What can be done to avert the enormous risks of injury to health which are yearly inflicted upon young children by preventible colds? Hundreds of children go to school in the wet, and are forced to sit through the school-hours in their soaking stockings and boots—in a well-warmed class-room, it may be, but without means of securing themselves against chills and colds. Children may sit through the whole day under conditions which their elders recognise in their own case as most disastrous to health. It is difficult to point out a practical remedy. The teacher cannot be expected to supervise a change of boots and stockings, or clothes at large, even if the dry garments were at hand. But none the less should parents and teachers open their eyes widely to the knowledge of the evils that do exist in the damp



feet, and in the consequent irritating cough which the teachers, in Board Schools especially, know so well. Provision should be made, somehow or other, for the supervision, under such circumstances, of young children especially. Older boys and girls know how to manage for themselves when they get wet, although, even in their case, the evils of damp feet are allowed to pass unnoticed, until the cough, or possibly the consequent pleurisy, lung-inflammation, or even consumption, directs attention to the true cause of the illness. Many a child's constitution has been ruined through damp clothes being retained during school hours; and parents might well spare many days' education very profitably, if, by the mere loss of a wet day's tuition, the ailments engendered by damp and wet could thereby be avoided.

The attention of teachers should be directed more notably than is at present the case, to the physical side of school-life in its relation to the ordinary bodily wants and processes. Many children suffer much from a fear or dislike of asking for temporary leave of absence from their classes. They suffer pain, and often cause serious illness, by this somewhat natural aversion to "asking out." We have known foolish teachers who have sharply reproved pupils because they appeared to demand absence from the classroom too frequently. In such a case, the teacher evidently imagined there was some attempt at malingering; whereas the pupil was really in pain, suffering from an irritable digestive system, which demanded rest. Such pupils should not be sent to school, it is true; but if they are allowed to take their place in a class, they should not be treated as if their demands were dictated by foolishness or frivolity. The wise teacher is he or she who, seeing a pupil evidently suffering, will investigate the cause of the discomfort, and set the child's mind and body at rest. Education under physical suffering is, at its best, the merest farce. Teachers need not be prudish; nor need they fear any rebuke from common sense, when they bethink themselves that children have bodies which, as well as minds, are placed temporarily under the teacher's care.

We have space enough left for the mere mention of another aspect of the school in relation to health. It is an admitted fact that the play-time of schoolboys and schoolgirls is by no means utilised as it should be for health-purposes. Perhaps it would be more exact to say that in the school-hours of children there should be included hours devoted to the practice of regulated gymnastic exercises, wherein the physical side of the youthful constitution might be trained and developed. The "Ling system" of Sweden, which will be described in a future number of *HEALTH*, provides for children of every age, beyond the mere infantile state, a thorough physical training. Such training, moreover, is given in an easy and pleasant fashion. The children come, in fact, to regard their gymnastic and exercise lesson as a kind of happy oasis amid the day's work and labours. Why should not Britain also possess her trained teachers of physical exercises, capable of visiting the schools in rotation, and of affording the means for the acquirement of healthy frames by our lads and lasses? If this regulated system of physical exercise became part and parcel of our educational method, we should hear less about chest distortion and spinal curvature produced by badly-constructed school writing-desks. We should hear fewer accounts of children whose school-hours are a weariness and a terror. We should not have the medical journals telling us of defective eyesight, rendered worse, even in early life, by inattention to the special wants of children's sight in reading and writing. For the teacher, once awakened to a knowledge of the plain facts of education

in relation to health, would be only too eager to call in the aid of health laws to enhance the work of intellectual training.

**SCHOOL-CHILDREN AND THEIR EYESIGHT.**—An interesting lecture on the effect of reading and writing on the eyesight of young children was recently given at Berne by Professor Pflüger, a great authority on the subject. The lecturer first called attention to the portentous fact that more than one-half of 45,000 children lately examined in Germany were found to be suffering from defective vision. In some schools the proportion of the short-sighted was as high as 70 or 80 per cent. In the Heidelberg Gymnasium it was 100 per cent.; every lad in the school had bad eyesight. According to Professor Pflüger, this lamentable state of things arises from several causes—from insufficiently lighted school-rooms, bad print and bad paper, the method of writing in vogue, and ill-contrived desks and forms. An evil equally great, and resulting in something more than defective vision, is the burdening of children with too many lessons and the consequent restriction of their hours of play. In order to solve the vexed question of the influence of German caligraphy on the eyes of those who adopt it, the Government of Würtemberg some time ago appointed a commission, consisting of three schoolmasters and three physicians, to investigate the matter and make a report. In the opinion of these gentlemen the mere writing is least among the causes which unfavourably affect children's eye-sight. They found that while comparatively few children write with their backs bent towards the left, fully 80 per cent. give their backs in writing a right inclination. The latter position tends to produce a permanent elevation of the right shoulder, and, if persisted in, curvature of the spine. In the schools they visited the Commissioners actually found 20 per cent. of the boys, and from 30 to 40 per cent. of the girls suffering from more or less pronounced curvature due to this cause. The difference between the two sexes is probably due to the fact that lads, besides being more energetic in play, are more rationally clad than girl scholars. As to position in writing, the distance between the desk and the eyes ought to be about 25 centimètres (a centimètre nearly equals  $\frac{2}{5}$  of an inch; yet it was rarely indeed that the Commissioners met with any children who could keep their eyes at this the normal distance from the paper. Many of them find it necessary to bring their faces within seven centimètres (2.75 inches) of their copy-books. The general conclusion of the Commissioners is that of all the evils enumerated the worst are the seats and desks at present in use. The Professor further remarked that only 10 per cent. of the children examined were naturally short-sighted. In conclusion, Herr Pflüger expressed the fear that he was like one crying in the wilderness, the prevailing tendency being to lay on the children of this generation still heavier burdens and force their minds to the lasting injury of their bodies.

**BORACIC ACID IN THE TREATMENT OF BOILS, &c.**—Dr. Gourgues (*Journal de Méd. de Paris*, September 22) recommends an ointment of four parts of finely-powdered boracic acid, one-half part of benzoic acid, and twenty parts of vaselin. It promptly relieves pain, and causes the disappearance of the boil in three or four days. Championnière also recommends a somewhat similar ointment of the same strength, and with the addition of Peru balsam (about five parts) to give it an agreeable odour, as an efficacious remedy for excoriations, erythema, superficial wounds, &c.



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

**CORONERS' SCIENCE IN CHINA.**—Whether Chinamen are or are not believers in the principle that it is better that nine guilty persons should escape rather than that one innocent person should suffer, they do at all events, by their manner of conducting inquests, leave open a wide door for the escape of murderers. A deeply-rooted repugnance to dissection of the human body, and a consequently slight acquaintance with anatomy, coupled with an entire ignorance of the action of poisons, deprive coroners of every means of arriving at decisions, except those furnished by outward symptoms and appearances. From early times, however, the importance attaching to human life has been recognised by the custom of holding inquests in case of sudden death, and various works have been published embodying all the knowledge available on the subject to assist coroners in their duty of investigation. The best-known of these was the *Se yuen luh*, or "Record of the washing away of wrongs," which was given to the world in the thirteenth century, and which, under the same title, subsequently received the *imprimatur* of the officers of the Board of Punishments, who, in the exercise of their legislative function, issued it as a manual for coroners. In this work is expounded the whole system of Chinese medical jurisprudence, of which the following is a slight sketch. One of the first directions given to coroners reminds one of Mrs. Glasse's celebrated dictum, and is to the effect that before issuing a warrant for an inquest they should be quite sure that there really is a corpse. This admonition is no less curious than the reason which makes it necessary. It appears to be not uncommon for unscrupulous swindlers to demand inquests on imaginary corpses for the purpose of extorting money from the wealthy owners of the houses where the bodies are said to be, who, rather than fall into the clutches of the law, generally pay the sum demanded on condition that all proceedings are stayed. But, being well assured of the existence of a corpse, the coroner should proceed to the spot well provided with onions, red pepper, salt, white prunes, and vinegar with the lees. If death has just taken place, he should examine the top of the head, back of the ears, throat, and any other vital part where a sharp-pointed instrument may have been inserted. In case of his failing to find any such cause of death, he should interrogate the friends and neighbours, and then proceed to examine any wounds there may be on any other part of the person.—*Nature.*

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**THE CHOICE OF CLOTHES.**—Much has lately been said and written to show that the demands of fashion should yield to the laws of physiology in matters of dress. Public attention has been prominently and frequently directed to certain well-recognised reforms in garments, especially in those of women, which are of indisputable importance. The proposed improvements have mainly had reference to the shape and size of articles of apparel, and have chiefly been designed to prevent certain baneful constrictions and compressions, certain unscientific distributions of weight, and certain impediments to healthy movement and growth, which fashion has favoured, but which are obviously in the truest sense unphysiological; but it must not be forgotten that, in human dress, intelligently adapted to its essential utilities, the materials of garments must be wisely chosen,

and that the texture and colour of clothes have as important bearings upon the health and happiness of their wearer as the mere "make" of his apparel. On these points, hygienic science has established certain definite and reliable conclusions. Whatever else may be said about clothes, their primary object is to protect against hurtful variations of cold and heat; all their other uses are either derived from, or are subsidiary to, their essential purpose. If utility strictly rule, it is clear that the material, texture, thickness, and colour of clothes must be governed in accordance with their bearing upon the protecting function of dress, and that these must be specialised in conformity with experience to meet the necessities of different climates and the requirements of various occupations. With regard to protection against extremes of simple cold, as distinguished from cold winds, wool is much superior, for equal thicknesses, to either cotton or linen. For protection against very extreme cold, besides wool, leather or waterproof clothing is useful. Wool is especially adapted for underclothing; when protection against cold is particularly aimed at, all underclothing should be of this material. Against cold, cotton and linen, for equal thicknesses, are about equal in protective power. For protection against cold winds, leather and indiarubber, according to Dr. Parkes, for equal thicknesses, take first rank; wool the second; cotton and linen taking the lowest places. For protection against extreme of heat, in the form of direct solar rays, the texture of clothes is practically immaterial; protection from this danger depends chiefly, if not entirely, upon colour. White has the greatest protecting power, then grey, yellow, pink, blue, and black. For hot countries, white clothing is the best; next comes dress of a light grey or dust-coloured shade, like the Indian "khakee." In the shade, Dr. Parkes found that the protecting effect of colour against heat is not marked. Here the thickness and the conducting power of the material are the conditions which affect protection. Amongst the subsidiary functions of clothes are the effects of various dress materials upon the absorption of odours, and in protection against malarial emanations. These considerations respectively assume especial importance in some occupations and in some countries. Odours probably mark the diffusion of minute material particles. Their absorption by articles of apparel has been found to depend partly upon colour and partly upon texture.—*British Medical Journal.*

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**DIET ON BOARD SHIPS.**—In a memorandum issued by the Marine Department of the Board of Trade, the attention of Parliament is called to the important subject of the victualling of merchant vessels. This memorandum was called for, since attention has been repeatedly drawn, in these columns and elsewhere, to the great increase of scurvy on board British ships since 1873. We entirely agree with the conclusions arrived at with regard to the "food scales" proposed to take the place of the old system of allowances, but regret that the adoption of the new scales is not made compulsory. Why "it is not at present desirable" to insert a statutory scale of diet in the articles of agreement with crews serving on long voyages does not appear. If the shipowners decline to move in the matter, which is not at all unlikely, possibly a little gentle pressure may be necessary hereafter. We have already discussed at length the recommendations contained in the new scheme of diets, so that we need now only briefly refer to them: they are to the effect that too much reliance is placed at present on lime-juice, to the neglect of varied food scales; and they advocate the increased use of fresh meat and fresh vegetables on board. No satisfactory



reason is given, the report says, why fresh potatoes cannot be carried on British ships. The allegation that they will not keep good on board ship is disproved by the fact that they do keep good on board United States ships. The discussion at the Royal Medical and Chirurgical Society on Mr. Neale's valuable paper on the "Etiology of Scurvy," unquestionably established the antiscorbutic properties of fresh meat, whilst doubt was thrown on the efficacy of cooked or artificially preserved vegetables to ward off attacks of scurvy. The demonstration, therefore, that raw potatoes can be kept for long voyages without deterioration of their antiscorbutic virtues comes at an opportune moment, and ought to encourage ship-owners to supply this cheap and wholesome food in large quantities, in lieu of the more expensive and less efficacious tinned vegetables. Nor do we see any reason why fresh meat should not be entirely substituted for salt. The appliances for keeping meat in a raw state in an unaltered condition have been brought to great perfection, and are easy of adoption. With regard to storage, raw meat would not require greater space than barrels of salted meat; nor would rations of fresh meat, considering the weight of the brine, be more expensive than salted. If every vessel constructed for long voyages were fitted with a storage-chamber, it could be used on the outward passage for the crew and passengers; whilst on the return, in addition to this service, it might carry a cargo of fresh meat from the colonies, or choice fruits and vegetables from the tropics. Indeed, owners of vessels might find it cheaper to victual their vessels altogether at foreign or colonial ports, since excellent fresh beef and mutton could be purchased at a quarter the price given for the same weight of salt meat in Liverpool or London. In this way the original outlay on the construction of a storage-chamber would speedily be repaid, with profit and advantage to all concerned.—*Lancet*.

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SANITARY ASSOCIATIONS AND INSPECTION OF HOUSES.—We deem it of the highest importance that all public buildings especially should be placed in the category of inspected houses. The fee is a very moderate one, and ensures a thorough inspection of the entire premises of the subscriber. To show how the aims of the Society should be encouraged, we may direct attention to the fact that, so far as we know, few, if any, hotels are inspected with regularity—or, indeed, inspected at all. That hotels, of all public buildings, should ensure a perennially healthy condition of their drains and pipes is of the highest importance to the public. The hotel-keeper who is anxious to keep that good faith with his guests and customers which is the guarantee of business success, should arrange to have his house inspected quarterly from top to bottom. If he can give the public a guarantee officially certified, it will not be slow to recognise in the action one which deserves the reward of healthy enterprise. Again, what holds true of the liability of the drains and pipes of a private house to lapse, is trebly true of the sanitary fittings of a hotel. The usage such fittings receive in the hotel is naturally heavy; and the public safety, as well as the hotel proprietors' own interests, would be ensured by regular inspection. The inspection of summer quarters is another matter which we earnestly commend to public attention. The health sought for in such quarters is often denied, or replaced by the misery of illness, through deficient sanitary arrangements. Heads of houses cannot spend a few shillings more wisely than in joining the Sanitary Association, and in knowing that, whilst health at home may be made more secure, health at the seaside or in the country may also become a matter of tolerable certainty.—*Glasgow Herald*.

## Our Bookshelf

"Reading maketh a full man."—Bacon.

*The Art of Dress.* By MRS. H. R. HAWEIS. (London: Chatto & Windus).

Now that the question of rational dress for both sexes is beginning to assume proportions of somewhat extensive as well as practical kind, we are glad to be able to call the attention of the public to the excellent and interesting little work by Mrs. Haweis on the "Art of Dress." Mrs. Haweis writes so charmingly and so sensibly, and her views are expressed with such moderation, that she is certain to receive a much larger amount of sympathy than is usually accorded to reformers of fashionable tastes. Throughout the pages of this chastely got-up little book, indeed, there is no attempt to push reform to extremes. The authoress is content to take her stand on a much safer ground—that of true taste and culture as applied to dress. After all, there is much to be said on the score of wont and use in dress, and any changes for the better we are destined to see must affect not merely the shape and form of dresses and clothing, but their colour, hue, and appearance likewise. The public will not follow the lead of those who, whilst reforming the unhealthy dresses of to-day, supply their place by something less attractive, or positively ugly. Dress reformers are beginning to awaken to an appreciation of this fact. We are certain that in Mrs. Haweis, those who proceed on the lines of rational reform, and who seek beauty and health com-



Fig. 1.

bined, will find a staunch friend and a powerful ally. Her own words (p. 11) are worth quoting in this relation. "In modern England there are bitter persons," says Mrs. Haweis, "who would admit beauty everywhere except in the human form; but, without attaching romantic importance to physical beauty, it is right and honest to confess that 'it is very good,' and it is blind and mischievous to lay a ban upon natural instincts which only become bad when they are called so, and relegated to a sphere of impure surroundings." In the expression of these opinions, Mrs. Haweis will have the support of every candid health-reformer.

The various chapters of this most interesting little



manual indicate a very wide field of research; and if Mrs. Haweis is often more suggestive than absolutely informative in her treatment of the theme of dress, she accomplishes a good work by stimulating thought on the subject. The chapters on "Taste in Dress" and on "The Abuse of Dress" are specially to be commended to the notice of our readers; whilst that on "Cheap Dress" is highly instructive, and will appeal very forcibly to both mothers and daughters who find modern ways somewhat inclined to exhaust their finances. Very interesting, because it touches upon the prevailing features of the dress of to-day, is the section on "Bad Art" in dress. Mrs. Haweis' illustration of "Fantail Skirts"—which we reproduce here (Fig. 1) shows one of the points she makes against a modern fashion. "Or," says our authoress, "speaking of this latter practice, 'all the ornament and weight will be concentrated on the 'fantail,' while the remainder of the figure is as plain as plain can be, recalling to mind the mediæval story of her on whose train a crowd of devils sat and fought, her vanity unconscious of their weight, till she raised up her train to cross a miry place, and 'it so fell out they all fell in.' All such costumes will be rejected by women with healthy taste and common sense; for material which adds nothing to beauty or to comfort is wasted. How much more, then, the yards of it which actually detract from both?" The "live mummies" of Mrs.



Fig. 2.

Haweis, which we also reproduce (Fig. 2), are "copied from a milliner's fashion book." There is something sarcastically droll in the "milliner's" design, which represents the swathed "mummies" with abnormal chests, in the vain attempt to play battledore and shuttlecock.

The chapter on "Art Protestants in Dress" deals with the attempts at dress reform in colour, shape, and other essentials. Mrs. Haweis is an ardent admirer of such a dress as that shown in Fig. 4, which represents a costume "shown on the tomb of Edward III. at Westminster Abbey." "It is," says our authoress, "one of the most simple and beautiful ever worn." Such a costume became fantastic later on, as shown in Fig. 3; but, despite the extra developments, the costume still retains its main

characteristics. What Mrs. Haweis claims for the "Art Protestant in Dress" is, that her waist "is rather short—where a waist ought to be, in fact—between the hips and the last rib. Her skirt is cut full or scanty, as she chooses, but is never tied to her legs with strings and elastics. She



Fig. 3.



Fig. 4.

can, therefore, stoop without gasping or cracking her corset-bone, and can sit down or walk upstairs at will, unlike some votaries of present fashions."

The sections on "Colours and Materials" of dresses, on "Hairdressing" from an artistic and hygienic standpoint, and on "Bonnets and Hats," should interest and instruct ladies of all ages. We must not neglect to add that Mrs. Haweis has a most important chapter on "Children's Dress"; and her remarks on "Nursery Hygiene" and on "Nursery Economy" should alone commend this most interesting book to every mother.

## Sanitary Appliances. Etc.

THE MALTINE MANUFACTURING COMPANY'S PREPARATIONS.—The Maltine Manufacturing Company have favoured us with samples of their well-known preparations, including the "Carricks' Beef Peptonoids." Of the latter, we are able, from personal experience, to speak in the highest terms. The "Beef Peptonoids" have been given for some time in our experience, in a case of chronic stomach disease in an aged person, to whom the digestion of solid nutriment and of most liquids was an impossibility. The "Beef Peptonoids" in this case have proved singularly effective in supplying nourishment, without any digestive exertion being increased; and when the stomach rejected all other foods, the "Peptonoids" were not merely retained, but appeared to satisfy the craving for food, which is one of the most annoying and difficult features in these cases of stomach disorder. The patient in this case expressed high approval of the "Peptonoids" as a food pleasant to the taste and free from the burnt taste characteristic of many beef essences and like preparations. An additional advantage of the "Peptonoids" consists in their being at once prepared for use by the addition of boiling water. Not only for invalids, but for travellers and for ordinary use, this preparation affords a singularly convenient means of obtaining a rich and nutritive form of soup, of which not the least excellent feature is the fact, that, being "peptonised," the work of digestion is reduced to a minimum. The other preparations of the Maltine Company, and especially those in which Maltine is combined with cod-liver oil, and also Maltine with hypophosphites, have a high value in the treatment of all wasting diseases.



## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply.

All Communications, &c., intended for the EDITOR—including Books for review, Sanitary Reports, Abstracts of Papers, specimens of Sanitary Appliances, &c.—to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

TO CONTRIBUTORS.—The Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

THE EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.]

#### "PTOMAINES" AND ANIMAL FOOD.

SIR,—Having read with much interest your Notes, April 27, on the ascertained existence of "Ptomaines," or "after-death principles" of poisonous nature in shell-fish, may I be permitted to call the attention of your numerous readers to the fact that such "Ptomaines" exist more or less in the dead bodies of all animals? From *Chambers's Journal*, Jan. 21, 1882, I ascertain that Dr. Galitier's investigations on the "Ptomaines" led to the important discovery that those poisons are being constantly generated in the normal excretions of the living body, and that they are present in minute quantities in most of our own tissues—being, indeed, one of the results of the waste continually going on in these. The more rapid the waste of tissue, the greater will be the quantity of these poison-forms; and thus it might be expected that the carcasses of animals killed, as so often the case, after prolonged and severe exertions—as driving to market, &c.—would be unwholesome; and this is a fact which has been frequently observed. Now, sir, I do not presume here to directly advocate the vegetarian system of diet, so-called, from which at least the flesh of dead animals is excluded. I am aware, also, of the difficulties attendant on the right choice of vegetable foods, their preparation, &c.; but it is nevertheless a suggestive fact that vegetarian literature and experience abounds with successful instances of what is aptly termed the "diet, or natural, cure;" and it is also a fact that the purer diet of fruits, grains, &c., by keeping the blood of man pure and free, no doubt, from the "Ptomaines" of slaughtered animals, tends to fortify him against the attacks of illness and disease. Probably we may get more enlightenment yet on the influences of this poisonous, "after-death principle."—Faithfully yours,

CHAS. DELOLME.

48, Rathbone-place, W., April 30.

#### THE ECONOMICAL UTILISATION OF HUMAN ENERGY.

SIR,—In reading over the very carefully-prepared article on "The Relation of Recreation to Work," which appeared in your issue of April 13, I was glad to note that the writer of that article insisted upon the thesis or proposition that a certain amount of recreation is essential to sound physical health. And in glancing around us, it is gratifying to note that this theory is not only being favourably criticised by all our leading sanitarians and others, but that it is being practically adopted by the institution of gymnasiums, cricket clubs, &c., in connection with our various colleges, seminaries, and academies of instruction.

But whilst this is so, whilst it is a fact that our leading physiologists, sanitarians, and others are agreed upon this point, and whilst admitting that these institutions have become an agreeable and advantageous rendezvous for those on whose behalf they were instituted, the thought has occurred to me—might not all this expenditure of human energy be more economically utilised than it now is? For instance, is it not possible to apply this vast expenditure of muscle to some more practical means of operation than that of football, cricket, or boating—e.g., to the plough, the saw, or the shovel?

If it were possible to do this, as I believe it is, and if the theory were practically wrought out, even in a limited measure, it would be found that, while those who applied themselves to this means of "recreation"—for it would be nothing short of recreation to people employed at entirely different pursuits (e.g., mental study, &c.)—thereby gained that amount of manual exercise essential to physical health, they would at the same time be producing something of a substantial nature in the field of manual labour.

This would, no doubt, in one sense, be reducing our clerks, warehousemen, &c., to the position of common ploughmen, sawyers, and labourers; but as their "work" would be engaged in merely for the purpose of "amusement," and have no pecuniary reward, there would be no fear of the new "innovation" proving a dangerous competitor to those regularly engaged at these occupations, whilst the influence of the "New-comers" would tend to elevate those few workmen with whom they would in the first place require to associate in order to learn how to use the different implements required for the purpose indicated. I am not, of course, prepared in this note to deal with all the *pros* and *cons* which naturally crop up in connection with a subject of this kind; but I am confident that were it once tested—as cou'd easily be done—it would be found to work well, and a proportion of the physical energy now thrown away upon skating, bowling, &c., would be utilised to some practical account.—I am, &c.,

Govan, April 30, 1883.

C. C. YOUNG.

[Our correspondent should keep in mind Mr. Ruskin's endeavour to utilise energy in his "Society." His views, which we are glad to publish, appear to overlook the fact that exercise, or "play," requires to include in its practice more than a mere change of work.—ED. "H."]

### QUERIES AND ANSWERS.

#### GENERAL.

AN Anonymous Correspondent returns us part of HEALTH (No. 2) annotated at that part of Mr. Stark's article on "Recreation," (page 27), where he speaks of the necessity for free ventilation of places of amusement in which smoking is permitted. Our Correspondent also encloses leaflets of Anti-Tobacco nature. We desire to say that, in the article in question, Mr. Stark deals only with existent phases of working-class life. Any reformer who desires to see rational amusement advanced, must "give" as well as "take." If our Correspondent had the slightest knowledge of the work of reform in amusements, he would know that to suppress smoking would be fatal to any advance or progress whatever. We cannot expect such a habit to be abolished in a day, and this we hold the more strongly, because eminent authorities are by no means agreed as to the evil effects of moderate smoking.

ELECTRICAL APPLIANCES.—We beg to acknowledge the receipt of various communications referring to the sham electrical appliances so often sold. In reply to our correspondents, we may state that we have made arrangements for the publication, on an early date, of a series of articles on Electrical Apparatus at large in relation to health. In the course of these articles, we shall endeavour, after due investigation, to point out the most likely sources of deception practised in the manufacture and sale of the articles in question.

EGERTON.—Send the MS., and the Editor will consider it.

B. ASKERN.—*Asphyxia* is the technical term for suffocation—or rather for the result of interruption of the breathing-process. The term itself signifies "pulselessness."

EASTERN.—Caries is a chronic inflammation of bone, resembling ordinary ulceration in softer parts.

TWEEDLE-DUM.—Address your inquiry regarding Tasmania and Australasia to Mr. Stanford, publisher, Charing-cross, London. He will be able to advise you concerning the best sources of information.

SACRE.—No; not at present.

BEATRICE.—The "Zander" system is described in a work recently published by Messrs. Churchill, and which we hope shortly to review in HEALTH.

CAROL H.—The publishers; not the editor.



A. C. BRUCE.—“Banting” was (or is) Mr. Banting, who, by a course of wisely-ordered dietary, reduced himself from a state of corpulence to a moderate weight.

ELGIN.—We have no knowledge of the system.

KEENE B.—Messrs. Churchill, New Burlington-street, London, W., are the publishers.

## II. SANITARY.

B. ELDER.—Apply to the Medical Officer of Health of your city.

C. S.—See the last Police Act for the clause you require.

ALEX. DRUMMOND.—At the city's expense, certainly.

H. G. SPEIRS.—No; the “bell trap” as commonly used cannot be commended. Any manual on drainage or plumbing will show you many traps vastly superior to the “bell.”

SKELETON AT OVEN.—Please send name and address.

## MEDICAL.

ALPHA.—You should have the causes of the pain carefully inquired into. So many causes exist that it is well-nigh impossible to advise you satisfactorily, whereas a visit to a qualified medical man would at once reveal the exact source of discomfort. The remedies prescribed are—firstly, *rest*, with occasional hot baths; anodyne or soothing medicines are also recommended, but, as often as not, a mechanical condition may exist, and this certainly demands medical advice.

THETA.—Diet during “training” varies greatly, and must depend very largely on the exact degree or stage to which the training is to be carried. For summer races on the Oxford system, Mr. Maclaren recommends rising at 7 a.m. Exercise, a short walk or run. Breakfast, 8.30; underdone beef or mutton; crust only of bread or toast, dry; tea (as little as possible). No forenoon exercise. Dinner, 2 p.m.; meat same as for breakfast; crust of bread; beer, 1 pint. Exercise at 5 o'clock; row twice over the course. Supper, 8.30 or 9; cold meat, bread, and perhaps a jelly; watercress; beer, 1 pint. Bed about 10. Sleep nine hours. Exercise (walking and rowing) one hour. Diet very limited.

C. J. J.—Your case seems one partly of digestive disorder, and partly of nervous nature. Apply at the Hospital for Nervous Diseases, Portland-terrace, Regent's-park, N.W.—and beware of quacks. Don't for a moment listen to the suggestion that your troubles are due to the cause assigned by the quacks you have consulted.

W. J. N.—You ask four questions in one breath. We shall do our best to answer them. 1. Belt-wearing, so far as we know, has nothing whatever to do with corpulency. Obesity depends on diet and constitution—not on braces or belts. 2. Walking or running, or such gymnastic exercises as the “rings” (see Maclaren's “Physical Education”). 3. A fire of itself in a room does not purify the atmosphere; its value (and that of the chimney) depends on the fact that the fire is a natural ventilator of the room, and the chimney acts as an air-shaft. 4. In cigarette smoking, the smoke and volatilised principles of the tobacco more readily gain access to mouth and lungs.

A. L.—Depends on the age of the patient. Consult a good surgeon, who alone can recommend, after seeing the knees, any apparatus likely to be beneficial. Are the bones healthy? If not, special remedies should be sought in certain foods.

HEDGEHOG.—Thanks for your good wishes. Doubtless pure air is a great preserver of health at large, and of the skin's health in particular. Londoners are bestirring themselves in the matter of pure or smokeless air. Cooling medicines and temperance are the best remedies for the skin affection you mention.

P. B. W.—For bunions, if painful, try a bread poultice and rest, and thereafter a plaster, spread on soft leather. See that your boots are roomy, especially at the affected side. If rheumatic in tendency, adopt treatment therefor.

CROCHET.—See reply to “A. L.” A Glasgow surgeon has recently been highly successful in his treatment of deformities in limbs where the bones have become permanently displaced.

VULCAN.—Chronic catarrh such as you describe is a very difficult and obstinate condition to treat. We should recommend you to try the effect of a complete change of locality. If possible, try what a month by the sea will do, or what a sea-voyage may effect. Many cases such as yours are cured by change of scene, and by residence near the sea. Write again, if your case is not improved by these means.

KING LEAR.—See reply to “Vulcan.” Common causes of a cold in the head are damp feet, or rough exposure to cold, especially leaving a heated room. You are most liable to cold when your system is out of order, or below par. These causes, in one person, produce cold in the chest and cough; in another, cold in the head; in a third, pleurisy, &c. Try the effect of pure air and good ventilation, avoid undue exposure to cold, and see to your general health. We are great believers in the preventive effects of cold-baths.

FRED. W. C.—Try what a little sulphate of magnesia (say about a drachm) in a tumbler of cold water every second day will do for you. A simple tonic, in the form of quinine, will also be likely to do good. See also paragraph on use of Boracic Acid in this number of HEALTH.

RICKARDO.—You should be careful to distinguish between what appears in your case to be merely a little aberration of a normal function and actual disease. Our advice to you is to take plenty of exercise—not overdoing this advice, however—and to engage in mental pursuits as well. Live temperately; see that your bedroom is well aired, and sleep on a hard mattress. Your future need be no other than a happy and healthy one. You suffer from no ailment. We reiterate our oft-repeated advice—beware of quacks and impostors.

VIATOR.—Thanks for good wishes. You suffer from muscular rheumatism. There is no specific. Attend closely to your general health. The approved and simple methods of treatment consist of rest and warmth (have you tried extra flannel?), an occasional warm bath, friction, as by rubbing with the hand, and the Turkish bath occasionally. A simple prescription is half a teaspoonful each of sulphur and cream of tartar, with ten grains of guaiac resin, and a teaspoonful of syrup of ginger with honey, taken in the morning along with a glass of water. A change to a warmer climate for a few weeks will often afford steady and lasting relief.

W. R.—D.—From your description we gather that you are a person of highly nervous temperament. Your case is one for the care of a medical man; but we should recommend you to try the effect of a tonic containing iron. Try what eight grains of carbonate of iron taken twice a day in two tablespoonfuls of infusion of calumba will do for you. Any chemist will make you up a mixture of the above.

DYSPEPTIC.—Moderate diet; few or no vegetables—for a time, at least; avoidance of stimulants; moderate exercise (*not exertion*); and rest after meals particularly. Avoid tea and coffee by way of experiment; and if medicines may be recommended at all (which is doubtful) try Morson's Pepsine; or if digestion is painful, eight grains sub-nitrate of bismuth twice a day.

H. M. K.—In patients of the advanced age you mention, the affection named is very common. You should procure the attendance of a surgeon or a qualified nurse. Either will be able to use the necessary and simple appliance for the relief of the sufferer. A medical man will prescribe a special tonic which will be of service.

INQUIRER.—Yes, the medicine you mention is certainly regarded as acting in the way you indicate. The dose varies from 10 grains to 20 grains or more twice a day, between meals. But we would ask you to consider carefully all the circumstances of the case, and whether it is wise or right to attempt to interfere in any way with a normal function. Our advice to you is to make a trial of physical exercise and mental occupation in preference to drugs of any kind.

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The first Monthly Part will be published the latter end of May, and will include Nos. 1 to 7, price 1s. 4d.

## TERMS OF SUBSCRIPTION.

The terms of Annual Subscription to the weekly numbers of HEALTH are as follows:—

To any address in the United Kingdom .....	10 10
To the Continent, Australia, New Zealand, South Africa & Canada ..	13 0
To the United States of America.....	\$3.25, or 13 0
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All subscriptions are payable in advance.

HEALTH will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



## ♦ HEALTH ♦

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, MAY 18, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE "National Health Society" held a highly successful meeting at Grosvenor House last week. Probably the "facetious journalist" will find a good deal of material for funny sayings in the course of a visit to the Society's forthcoming Exhibition. The resolutions demanding the preservation of open spaces in large towns, and the technical education of plumbers, will commend themselves to all persons desirous of common health-reform at their own doors.

♦ ♦ ♦

HERE is the latest health fraud:—"A healthy vagrant bandages his arm carefully, carries a bottle of water under his coat, collides with a charitable-looking gentleman, drops the bottle with a crash, and attracts a crowd by bemoaning his broken-armed, medicineless, miserable condition. In spite of our warning, several of these enterprising persons have been carrying on a profitable business and littering the streets with broken glass for some time, until one of them recently rashly lost his medicine twice in the presence of the same gentleman, whose charitable aspect so far belied him that, on the second occasion, he called in the police."

♦ ♦ ♦

THIS "dodge" reminds us of the afflicted gentleman who is seized with a fit, which, strangely enough, occurs invariably in the neighbourhood of a public-house. When the sympathising spectators unbutton his waistcoat, by way of giving him free ventilation, they discover a legibly-written placard sewed on his shirt, and bearing the legend, "Kind friends! I am subject to these fits. A glass of the best brandy always revives me!" Needless to say, the highest medical authority who can be summoned in such a case is the policeman, who usually knows the patients that choose this fashion of getting speedily intoxicated at the public expense.

♦ ♦ ♦

MRS. KING's lecture, given last week at the Princes' Hall, Piccadilly, on "Rational Dress," raised quite a series of storms or cyclones, if not in teapots, at least in several of the so-called "representatives of public opinion." One organ, not conspicuous for its liberality, says the audience

consisted of "about forty depressed males." The person who afforded this information must have been labouring under an optical illusion, or from still more abstruse form of mental twist. The audience, as a matter of fact, consisted chiefly of ladies. Is it possible that the gentleman who writes the "funny things" in the *St. James's Gazette* had rational dress on the brain, and imagined that the ladies of the audience were "males" who had adopted some new form of habiliments?

♦ ♦ ♦

It is curious to note the somewhat carping comments in other quarters on the "Rational Dress Movement." But for the fact that all sensible reformers are accustomed to find their views mis-stated, they might justly feel aggrieved at the often extraordinary statements laid before the public concerning their opinions. One journal asks why should "Mrs. King be the judge of rational dress?" the reply to which query might be, that Mrs. King, Lady Harborton, and others, equally with the journal in question, are entitled to possess opinions and to ventilate views regarding modern dress and its faults. The *Daily Chronicle* is found to add that it cares not "whether woman is, or is not, rational in her dress, for, after all, with all her shortcomings, 'were she other than she is, she were unhandsome.'" It appears tolerably clear that whatever the respect with which the opinions of this journal on other matters are received, the views of its editorial staff on wasp waists, high heels, heavy crinolettes, and other abnormalities of modern female attire, will, in the eyes of most people, be regarded as capable of considerable improvement—from a health point of view, at least.

♦ ♦ ♦

AFTER the "twaddle" to which we have just referred, it is refreshing to light upon the following in the *Daily News*:—"Dress, in short, will not modify our frames to any great extent in a particular direction. But any one who has noticed the maiden with a waist like an hour-glass, and with her whole body poked forward as she limps along on her high-heeled, sharp-pointed boots, must admit that fashion can cause disease as well as ugliness. But the kind of girl who changes her shape and walk into those of some large bird, evolved in a dismally unfavourable environment, is beyond the reach of arguments advanced by the National Health Society or by any one else. We honestly believe that this kind of young woman is not even thinking, in the first place, of winning the admiration of 'the wayfaring man, though a fool.' She is living up conscientiously to some inconceivable standard of duty, set before her in cheap books of fashion."

♦ ♦ ♦

THE *Daily News* is equally sensible in its further remarks on the futility of supposing that all the world will agree with health-reforms. "Perhaps we ought to leave our weaker sisters when they dress, their narrow waists, their pinching shoes, and not with shadowed hints confuse their efforts after loveliness. In minds like theirs, all ethics and duty probably hang together. To touch one point with subversive doubts is to bring the whole flimsy edifice down in ruin. It is certain that fashion, and people who strive to be fashionable, will consistently think of health last in matters of dress, and of conformity to the unwritten law of the dressmakers' league first of all. One cannot argue with fashion. The only plan is to educate the authors, the hidden, mysterious authors, of fashion, and one might as hopefully strive to make Nihilists adopt the rules of the Society of Friends." These be honest sentiments and opinions, with which the majority of persons, other than facetious journalists, will assuredly agree.



At the Manchester Medical Society Dr. Jones recently remarked that he had seen two cases of inflammation of the eyes due to exposure while experimenting with the arc electric light. He added that he had seen no ill effects from the ordinary or incandescent light. Most authorities regard the light of the latter as anything but hurtful to the eyes, and this notwithstanding its brightness.

\* \* \*

DISINFECTING chambers are good things, and necessary things in their way, but, when they are set down in a densely crowded neighbourhood they must be regarded as somewhat misplaced. So thought the London School Board, which, however, has been worsted in its suit against the sanitary authorities of the Strand, who have placed a disinfecting chamber in Clare Market, a very populous locality. The *Lancet* deeply regrets the legal decision, and hopes there will be an appeal against it. If a disinfecting chamber justifies its name, there need be no fear on the grounds of infection from the mere process carried on inside the structure. It is the transmission and collecting of the infected clothing in one centre which constitutes the great danger of constructing a chamber in a crowded and populous locality.

\* \* \*

CASES of poisoning through eating common plants have been numerous of late. Each summer brings its poisoning cases of this nature as surely as it sees the "drowning" accidents to which we have just alluded. Fool's-parsley, hemlock, and many other plants are deadly poisons; and yew-berries are well known to rank in the same category. A contemporary advocates the delivery of lectures in towns on these poisonous plants by way of saving the masses from accident. We have a simpler and more satisfactory suggestion to make—namely, that if boys and girls were taught, as they should be, the elements of botany at school, the possibility of such accidents would be reduced to a minimum.

\* \* \*

HERE is an old story, but one, unfortunately, ever new! A dairyman at Wolborough had several cases of scarlet fever in his family. He "kept the matter quiet," as the phrase goes, with the result to his customers that nine families were infected; whilst other seven families not receiving milk from the dairy were also stricken. There is a beautiful simplicity in such a method of spreading fever that must command the admiration of the thoughtful. Only, we should bear in mind that, had the dairyman's cows been ailing, say, with "foot-and-mouth" disease, he would have been compelled by law to report the matter; whilst, when his children fall ill and infect the milk, there is no law to compel him either to close his premises or to report the case to the authorities.

\* \* \*

VERY justly awarded tributes have appeared in the medical journals to the worth of Dr. Farr, who died last month in London. Dr. Farr was Superintendent of the Statistical Department of the General Register Office, and in that capacity gave forth to the world reports on vital statistics full of information of the most valuable kind on all matters relating to the duration of life and the progress and development of the diseases that threaten and extinguish it. Dr. Farr's name has long been synonymous with that of the highest authority in all matters relating to what may be called the statistical valuation of life and death. He retired from his office in 1879; and we regret to have to add that he received but scant and inadequate recognition from Government of his eminent services to science, and to the well-being of the nation at large.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### OUR SAILORS AND THEIR HEALTH.

By W. DOMETT STONE, M.D., F.R.C.S.

I PROPOSE in this paper to point out a few of the many shortcomings of the oft-amended Merchant Shipping Act. In so doing, I feel that it is only by constantly "pegging away"—by "thinking nought done while ought remains to do"—that we may hope to succeed in achieving our object—viz., an amelioration in the condition of our merchant sailors, towards which so little has been effected since I first drew attention to the matter in the columns of the *Times*, in 1866, during a residence on board the *Dreadnought* hospital ship.

"Omission to do what is necessary  
Seals a commission to a blank of danger;  
And danger, like an ague, subtly taints,  
E'en when we sit idly in the sun."

Acts of Parliament to amend the laws on merchant shipping, bearing especially on unseaworthy ships, overloading, &c., have been passed, but little attention has been paid to the "living machinery," and nothing beyond an order that a certain quantity of lime juice per head shall be given to the men during the voyage has been deemed necessary to insure immunity from scurvy. In order to eliminate this infallibly preventable disease from the list of "ills that flesh is heir to," something more is needed than enactments as to the examination of lime and lemon juice, and permissive clauses relating to the inspection of seamen. I have again and again pointed out in the *Times* that lime juice, though a useful reserve in cases of emergency, is, in good ships, not considered a necessary article of daily food. In corroboration of this I may state that, in a letter received a short time since from Captain J. H. Allen, dated Royal Adelphi Hotel, Liverpool, August 10, 1882, he writes:—"Starting in 1849 I traversed almost every sea frequented by commerce, without intermission, and in every capacity, on board a merchantman till 1870, during which time not a single case of scurvy in a ship I served in ever occurred, neither have I seen served, or taken myself, a spoonful of lime juice." The absence of scurvy he attributes to good, wholesome diet, combined with cleanliness, and he adds the very significant fact that his whole experience has been in the mercantile marine of the United States, thus substantiating a statement I made some years since that lime juice is superfluous where a ship's company is properly treated. That an obligatory dietary scale would be the means of effectually eradicating the disease, is the opinion of all competent authorities and of persons who have studied the question in an impartial spirit. If the remedy be considered a desperate one, as has been asserted, I answer:—"Diseases desperate grown by desperate appliance are relieved, or not at all."

The inspection of provisions is the second point to which I would draw attention. Surely it is not too much to ask that the same surveillance which is kept over meat salesmen who retail provisions for home consumption should be extended to ships' provisioners. The emigration officers are supposed to inspect the provisions on board vessels taken up to convey emigrants, but only the stores for the use of emigrants and not those for the crews. Even this duty has been reduced to a mere farce—one barrel opened out of a dozen! Attention should also be drawn to the



weights, measures, and scales, which are frequently very defective; they are never examined or cleansed; when in port they are covered with rust and treated as lumber, taken voyage after voyage in that state, and getting from bad to worse. Some years since an indefatigable public officer tried to set the parish authorities in motion; but, curious to relate, found they had only power to inspect scales and measures when used for the purpose of buying and selling. It is, therefore, useless for ships' agreements to provide for certain quantities, &c., when the amounts can be, and are, greatly reduced by defective weights.

3. The total abolition of all permissive clauses relating to the inspection of seamen in order to insure efficient manning and safety of vessels, for every man, be it remembered, rendered unfit for duty, throws additional work upon the rest of the crew. The necessity for this may be seen from the circumstance that out of 600 men who shipped at Cardiff in eleven days, only four were examined by the medical inspector, and these four, it is stated by this officer, would have been taken by their captains had he not been present. Two were rejected for scurvy, and two for other ailment present in an aggravated form. From this it will be seen that when the crew is adequate in point of number it may be lamentably inferior in quality.

4. The appointment of legally qualified medical men on every ship bound to carry a surgeon should be insisted upon; and that it should be the duty of superintendents of mercantile marine to see that the Medical Act is carried into force by production of diploma, or name in Medical Register, in the same manner that is observed with a master, mate, or engineer, who are bound to produce their certificates of competency on each engagement—a provision in the case of a medical man it is impracticable for the Medical Registration Office to see enforced.

5. The Mercantile Marine forms for examination of candidates for certificates of competency should be revised, so that it should be almost impossible for a master, mate, or engineer to obtain a certificate by deputy, which is now easily done.

6. The re-shipment of provisions is the next point to which I would draw attention. Many vessels are now compelled, under an Act passed in 1853, to carry more stores than can be consumed during the voyage—now made in much less time than was the case thirty years ago. Hence provisions can be taken twice to the antipodes before being consumed. They are thus subject to constant change of climate, &c., which it is obvious cannot improve them. A stop should at once be put to the plan of provisioning first-class merchantmen going long ocean voyages with the surplus stores of the steamship companies.

With regard to the term "sea-scurvy," I may observe, in answer to one or two correspondents, that no such affection appears in the *Nomenclature of Diseases*. It is only met with in documents issued by the marine department of the Board of Trade. That so-called "sea-scurvy" and "land-scurvy" are identical affections may be gathered from the fact—in the recollection of some of your readers—that in the year 1847, when potatoes and other vegetables were very scarce in North Wales, scurvy prevailed to an alarming extent. The poor people, when questioned respecting their mode of living, mostly told the same tale—viz., that they had not tasted vegetables for twelve or eighteen months, and had lived chiefly on bread-and-butter and tea, a little meat, but no kind of vegetable. In the same year, many severe and even fatal cases occurred in the town of Nottingham. The cause was attributed to the potato disease, which prevailed at the time. In the same year, scurvy appeared in Glasgow, also in Paris, as well as in other cities and towns in the United Kingdom and on

the Continent. It re-appeared in Ireland coincident with the potato famine.

That sailors should enjoy the highest standard of health is admitted by all writers on marine hygiene. That they do when properly treated may be learnt from the fact that between the years 1839 and 1853 there died annually 17·5 per 1,000 among the effective men of all ages of the army serving at home, whereas the rate of death among seamen in the navy at the home stations between the years 1830 and 1836 was only 8·8 per 1,000. The deaths, however, among merchant seamen serving on home voyages was 24 per 1,000! In this paper I have endeavoured to show that, by making certain alterations in the Mercantile Marine Act, which no one can say are impracticable, the health of our sailors would be raised to at least an equality with that of other nations; and I may add, on behalf of those that "go down to the sea in ships, and do business in great waters," that my sincere wish is that the present Act may be so far amended as to render any further complaints a work of supererogation.

"If it were done, when 'tis done, then 'twere well  
It were done quickly."

Judging, however, from experience, we must not be too sanguine of a speedy issue, but

"Still achieving, still pursuing,  
Learn to labour and to wait;"

ever remembering that "with time and patience the leaf of the mulberry tree becomes satin," and that "patience and perseverance made a bishop of his reverence."

## THE DEAD AMONG THE LIVING.

BY S. PHILLIPS DAY.

UNQUESTIONABLY, one of the most important sanitary subjects of the day consists in the best manner of disposing of the dead. The topic is far from attractive, while it is this very circumstance that causes it to be treated with crass indifference by the generality of persons. Of late, however, public attention has been particularly directed to the perils presented by the contiguity of cemeteries to great centres of population. Some time since, in his capacity of President of the Social Science Congress, the Bishop of Manchester referred to this matter. He noticed how "cemeteries are becoming not only a difficulty, an expense, and an inconvenience, but an actual danger;" and affirmed "that before long we shall have to face this problem—'How to bury our dead out of our sight'—more practically and seriously than we have hitherto done."

That the ordinary cemeterial system is fraught with danger to the living, and something like desecration to the dead, scarcely admits of controversy. In the metropolis this is especially the case, as the alluvial soil is unsuited for the purpose of sepulture, and as the area of the cemeteries is far too limited. The consequence is that the public health is perpetually menaced, that epidemics and sporadic diseases (owing to poisoned air) afflict the population, and that the dead have to be buried without a proper proportion of space between each body. Mr. Seymour Haden has averred that the soil of our neighbouring burying-grounds happens to be saturated and super-saturated with human remains. Hence arise poisonous gases, embracing carburetted hydrogen, ammonia, nitrogen, sulphuretted hydrogen, in addition to a variety of noxious acids, which pervade the atmosphere of cemeteries, and become wafted over London by the wind. Scientists are aware that moisture in the soil alone most



potently affects the health of the community, inasmuch as the soil is invariably cold, and gives rise to damp in dwelling-houses, thereby producing catarrh and rheumatism, and their consequences. How must it be, therefore, in the capital of the Empire, wherein cemeteries abound, in which the mortality of the city, for the most part, finds sanctuary? Several years ago a desire was manifested to close such of those pestilence-producing places as were in the most repulsive condition. The Government purchased Brompton Cemetery, as the commencement of a necessary sanitary undertaking. Dr. Sutherland, the official inspector, and Professor Bernays, of St. Thomas's Hospital, pronounced against keeping such places open longer. These eminent authorities both concurred that, of the various cemetery companies, only the London Necropolis Corporation had chosen a site suitable for burial, owing to the nature of the soil, and that the regard for public health and public decency manifested in their practice at Woking singularly contrasted with the reprehensible indifference exhibited in other cemeteries. Certain difficulties arose which prevented the Administration of the day from carrying out their purpose; the authorities grew apathetic; Parliament suffered the scheme to be relegated to the future; and so matters have grown worse every day. And what is the result? Why, that this teeming metropolis is actually more seriously menaced than when the indescribable condition of our grave-grounds was first brought before public attention. It is not long since the leading medical journal sounded the note of alarm. It pointed out the danger that menaced the community, and urged upon the Home Secretary to take instant action by interdicting further burials in the London cemeteries. "A dozen years of unceasing building, north, south, east, and west," as one writer observes, "have surrounded these unhealthy spots (the sites of which should never have been selected for mortuary purposes) with numerous dwellings, thereby rendering them plague-spots in the midst of our suburban population." The public health certainly should take precedence of the pecuniary interests either of private individuals or public companies.

It is actually shocking to think that the dead should be heaped together in burial-places, in order to make up for deficient space. The Superintendent of Battersea Cemetery, upon being questioned, admitted to the Government Inspector that "it was customary to bury four bodies of adults, or five of children, in the same grave, with a foot of earth between each coffin." Sometimes it appears that, in cemeteries of higher standing even, the quantity of soft clay does not come up to a solitary foot. No doubt the law lays down a number of sanitary requirements, which it is expected will be strictly adhered to in all instances; but there is not a day in which the superintendents of cemeteries do not openly violate them. The Cemeteries Clauses Act too frequently becomes a dead letter. Nor can this well be avoided, when burial-places, known to be overcrowded, are legally suffered to receive further tenants.

"The burial of the dead," as the Bishop of Lincoln asserts, "ought never to be a cause of injury to the living." The question, however, is one that concerns the living rather than the dead. The common form of interment is not merely unsatisfactory and unsanitary—it becomes fraught with serious consequences. One is at a loss to conceive how, as reasoning beings, people adhere to a practice which is generally condemned, although comparatively few have the courage of their convictions, or are morally capable of freeing themselves from the fell trammels of custom. It strikes us that the Church of England Burial Reform Association is a move in the right direction. Yet, while it advocates the practice of simplified funerals,

disclaims mourning, and condemns ostentation and expense, it does not go to the root of the matter. Hence it is impossible not to concede that the Directors of the London Necropolis, at Brookwood, Woking, by preparing a capacious cemetery, capable of supplying the mortuary wants of the metropolis for all time, and by the adoption of the earth-to-earth principle of interment, were the pioneers in the field of sanitary progress, as Mr. Haden testifies in his eloquent letters to the *Times*.

## THE "GERM THEORY" OF DISEASE.

### IV.

WE have now to pass to the consideration of the more recent discoveries of Pasteur in connection with the propagation of infectious diseases through the diffusion, planting, or sowing of the "germs" which are found in the blood of the infected subjects. An idea, in this way, may be witnessed in process of being traced out to its practical demonstration. The thought of Spallanzani and others, that infectious diseases are due to "germs," and that these germs are *living particles*, may be shown in the sequel developed into an actual fact of life.

We may find a convenient starting-point for our ramble, in the silkworm disease, which, through the work of Pasteur, was thoroughly investigated. The tracking out of the causes of a disease of the insect-world proved the preliminary to far more important researches on the affections of higher life. In 1865 the weight of the silk-cocoons produced in France was 8,000,000 lb. Large as this amount seems, we may be able to discover the enormous falling-off which the 1865 crop exhibited, when we learn that in 1853 the weight of silk produced was 52,000,000 lb. In a single year—that of 1865—the fall produced a *loss* of 100 millions of francs. In 1853 the *revenue* was 130 millions of francs; and we also learn, that in the twenty years prior to 1853 the revenue from silk culture had doubled itself. The vast and overwhelming nature of the catastrophe, which thus threatened the commercial prosperity of France, can be fairly judged from the foregoing figures. During a period of fifteen years the silkworms (or caterpillars of the silk-moth), had died off by thousands, smitten by a disease which appeared mysterious alike in its origin and in its spread. No such calamity can befall any nation without attempts being made to stay the progress of the disease. As in the case of the existent vine-disease, remedies were proposed by the score. One author, writing in 1860, remarks that the *materia medica* of the silkworm "is now as complex as that of man. Gases, liquids, and solids have been laid under contribution. From chlorine to sulphurous acid, from nitric acid to rum, from sugar to sulphate of quinine all has been invoked on behalf of this unhappy insect."

To such a pass had matters come in 1863, that the Minister of Agriculture, as representing the French Government, signed an agreement, binding himself to pay 500,000 francs to the happy discoverer of a remedy which was said to be successful in arresting the disease. The remedy was tried, but without success. It was at this juncture, in June 1865, that Pasteur appeared, prepared to undertake a thorough and scientific investigation into the mysterious plague which, so far, had ravaged the insect tribe unchecked and at will.

Prior to the appearance of the dread disorder—which, by the way, was known as *pébrine*—it was noted that an affection named *muscardine* had attacked the silkworms. One Bassi had shown that the "muscardine" was undoubtedly caused by the growth within the silkworms, of a



minute parasitic plant. In due time, these disease-plants gave origin to their microscopic "spores" or seeds. The spores, conveyed by the wind, carried the disease to regions in which it had been unknown. "Pébrine," however, was a far more fatal malady than "muscardine." The former caused black spots to appear on the bodies of the worms, and from this fact the name of the affection was derived. It affects the growth and nutrition of the little spinners of the silken thread, and finally causes their death. Doubtless, the prior discovery of the parasitic and plant-nature of "muscardine" assisted Pasteur somewhat in his search after the cause of the "pébrine"; and he was armed likewise with other items regarding the nature of this plague, which proved useful in guiding his footsteps towards its true seat and origin. So early as 1849, curious rounded bodies, showing apparently independent movements, were known to occur in the blood of the silkworms. These "corpuscles" multiplied in the insect's body, and, undoubtedly, as was proved by Cornalia, cause the disease of the insect. Later on, these mysterious "corpuscles" were seen to inhabit even the eggs laid by the silkworms, and from which new silkworms spring. The egg was thus apparently infected from the parent, and in turn, the infection, of course, grew with the silkworm, and thus became a hereditary complaint, propagated from parent to offspring.

A silkworm suffering from disease of this nature, seems to be affected in every part of its frame. The "corpuscles" literally reign over its body. When the diseased insect begins to "spin," its attempts are in vain; for the silk-glands, instead of providing the fluid material, as in health, are filled with the corpuscles. Complete disorganisation of the structure and life-functions of the unhappy insect prevails, and it ultimately dies, vanquished by the hidden enemies that have thus multiplied in its blood.

Pasteur, at the outset of his discoveries, drew attention to one very important point. The corpuscles, he saw, were small, and comparatively undeveloped in the egg. In the young worm even they might escape notice. But with the insect's growth its "unbidden guests" also increase in number and size; while, lastly, in the chrysalis, and in the full-grown moth itself, the corpuscles are large and readily seen. Hence appeared clearly enough the reason why the old method of testing the eggs was fallacious and untrustworthy. The egg might apparently be healthy, and yet contain the germs of the disease fully represented in its constitution. But it is different with the moth. By passing the egg, the disease was liable also to be overlooked. By beginning with the diseased parents, or moths, in which the presence of the corpuscles could be fully traced, no difficulty was experienced in pronouncing an opinion regarding the probability of the disease being reproduced.

Like all reformers, Pasteur experienced great difficulty in persuading the silk-growers to accept his *dicta*. They ignored the fact that a fine-looking cocoon might harbour a diseased moth. The egg, as we have seen, gave no hint or prophecy of what the moth might become; and as often as not, the diseased eggs, chosen by the growers, produced bad moths. So convinced was Pasteur of the surety which lay in taking the moth as the fulcrum upon which to move the lever of thought and research, that in 1866, after inspecting fourteen parcels of eggs which had been selected for hatching, he wrote and deposited in a sealed packet his views of the probable results which would follow the development of the eggs. In 1867, the growers told their story. Pasteur's letter was then opened, and his prediction was so far verified that in twelve out of the fourteen cases the results agreed exactly with his views. He had said in

his letter that many of the worms would perish completely, whilst others had well-nigh been extinguished by the disease, and the result was as he had predicted. Had the moths of 1866, from which the eggs had been taken, been inspected, as Pasteur advised, none of the fourteen packets of eggs would have been allowed to undergo development. Two packets of eggs he pronounced in 1866 to be sound, and born of healthy moths. These packets bore healthy caterpillars, and thus in a reverse way verified the correctness of his views.

The result of Pasteur's labours in connection with *pébrine* may be predicted from the foregoing account. By rearing healthy eggs, and by the destruction of all unhealthy and diseased moths and worms, Pasteur, restored to France the well-nigh ruined industry of the silk growers. He elaborated his methods to such an extent and perfection, that he was enabled almost to predict the exact extent to which the disease would prevail in a given case. He showed that infection was conveyed by the wounds which the worms inflicted on one another with their claws. He proved the infectious nature of the disease by infecting a mulberry leaf with the diseased matter, and by showing that the healthy worms which had fed but once thereon, in due time became diseased. He demonstrated that only by destruction and isolation of the affected worms could the disease be "stamped out," and a new and healthy breed secured. In a word, Pasteur showed that *pébrine* was due to a plant-growth and propagation within the animal frame.

In our next paper, we arrive at Pasteur's discoveries regarding the *splenic* fever of animals.

THE PREVENTION OF DISEASE.—It is a great thing to benumb pain, but a greater to prevent. It is a noble ambition and a lofty success to postpone death by the restraint of the constitutional taint, but it is a nobler to root out that taint and to prevent its local manifestation. To treat a fever and to save its victims is good, but to prevent a fever is better. It is a duty to care for and relieve all suffering, but it is a higher duty to ward it off, or to lighten the blow when it must come. With the greatest success possible, we are painfully aware that fevers will occur, and the resources of our practice and surgery will always be in demand to deal with evil which has come; still, I should insult your intelligence did I not claim that a prouder record for medicine is to be found in the preventive side of its work.—Charles N. Hewitt, A.M., M.D., Secretary Minnesota State Board of Health.—Presidential Address before Minnesota State Medical Society.

EDUCATION OF GIRLS AND HEALTH.—Girls especially should be taught something of what they owe to posterity as well as to themselves, for in the hands of our girls lie the health and happiness of the entire nation. But they are too often reared in total ignorance of the commonest physiological facts, since foolish mothers suppose that a fine, pure young mind would be depraved by the slightest study of the simple rules of health. Hundreds of young girls injure themselves irreparably through this false doctrine, and never know it till they are wives and mothers. Late hours, cramped positions during study, over-exertion in the excitement of London seasons, or on horseback; but, worst of all, acceptance of fashions which displace the bones and internal organs till the mischief has become irreparable even by the surgeon, are some of the vicious habits which are sapping the comfort of the present generation and the mental and physical wellbeing of the next one.—Mrs. Haveris.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—*Gay*.

### NO. VI.—THE CARE OF THE HAIR.

BY DR. ANDREW WILSON.

PINCUS tells us that the life of a hair varies from two to six years, and that it grows most rapidly at its birth, growing at only half its early rate when it has reached its middle period of life. This author also gives the following interesting recital with reference to cutting the hair. He alludes to the belief that frequent cutting increases the length of the hair, and adds, "Cutting has a different effect from that generally supposed." On the heads of healthy men Pincus "cut off circles of hair about an inch in diameter, and from week to week compared the intensity of growth of the shorn place with the rest of the hair. The result was surprising. In some cases the numbers were equal; but generally the growth became slower after cutting; and I have never observed an increase of rapidity." If the correctness of these views be admitted, they should certainly alter common notions respecting the value of a "good crop."

Pincus also makes some interesting remarks concerning the "normal loss of hair." He has attempted to estimate the normal number of hairs shed daily in health at different ages, and he arrives at the following conclusions in this matter:—In the finest growths of hair there are to be found hairs of different lengths; and this exists as a matter of normal growth. It would thus seem as though each individual hair had a life and growth (or length) of its own. A considerable number of hairs fall out whose length is less than that of the typical hair, and these hairs mostly come from the middle of the head. In the daily loss of hairs in women, not more than a quarter of the hairs shed should measure less than six inches. Amongst the hairs that drop from men's heads are "point hairs," showing no trace of the scissors; hence it is important to distinguish the "point hairs" from pieces which are merely torn off. Where these "point" or normal and uncut hairs are shed in large proportion (*i.e.*, when compared with the cut or broken hairs), there is every reason to suspect disease of the hair.

Health reformers who run a tilt against pads and chignons in the fair sex in the matter of "hair health," are bound to retort upon the sterner sex on account of that nineteenth century monstrosity, the tall hat. It appears to be a matter regarding which there exists no doubt—amongst specialists, at least—that the wearing of the ordinary hat, close-fitting and ill-ventilated, is a frequent source of early baldness. A tight-fitting hat must, at least, through its pressure on the blood-vessels of the scalp, cause the nourishment of the hair to be interfered with. Hats should be made of soft materials, close-fitting if need be, but without pressing unduly on the head; and they should further be ventilated, as many hats are, by punching a few holes in the crown. There is, in truth, no reason why our heads should not have the benefit of full and free ventilation.

It has often been recommended as valuable, from a health point of view, to have a space left between the lining band and the hat itself, and it has also been suggested that air-holes, deftly concealed, might be made in front and behind as well. Such a plan would at least, we believe, lessen the tendency to chills and head-colds, and

would unquestionably be beneficial for the hair and its growth. The need for hat-reform, however, on the score of comfort, seems to be very great. In this land of storms and high winds, the "dress hat" is the most awkward of head-gear. It is the head-gear most readily soiled and spoiled by the weather, and it is, as often as not, a heavy burden to the wearer. Reform in hats seems demanded alike by common sense and by health reform. Let us hope that in this respect the conservatism of fashion will not in time prove too strong for the efforts of reform.

It is a noteworthy fact that free exposure of the hair to the atmosphere is not inconsistent with, but, on the contrary, often favours, a rich development of hair. Bluecoat boys, so far as we are aware, do not suffer from thinness of hair. Those nations which leave the head largely or constantly uncovered rarely suffer from baldness. Doubtless, there may be elements in the constitution and life of the peasant or savage, favouring healthy hair over these conditions which destroy the hair of civilised races. But it appears pretty certain that a good head of hair can never be expected where it is "cabined, cribbed, and confined" in any way. One fact which seems powerfully to argue in favour of the advantage of uncovering the head, in so far as healthy hair is concerned, is found in the observation that women, who have the head less frequently and less tightly covered than men, are rarely bald, save from some actual hair-disease.

Dr. Pincus, from whom we have already quoted, strongly advises ladies to undo their hair at night, to unplait the hair, and to wear it loosely in a net. In this way the nourishment of the hair is duly provided for. Concerning night-caps, these, Pincus adds, should always be light. By a providential kind of correlation, it might be added, that those who require warm headgear at night are usually of an age when the condition of the hair is not likely to prove a source of any anxiety or discomfort. Those who are forced to remain in bed for long periods, through illness, should have the hair oiled and combed with a coarse comb daily. The head may, if circumstances permit, be washed twice a week with soap and water, and the water may be warm, lukewarm, or cold, as taste directs, or as the health may permit. In cases of long-continued illness, it is often advisable to cut the hair, not short, but so as merely to reduce its length by about a third. This practice will be found useful, not merely from considerations connected with the cleanliness of the hair, and with greater ease in maintaining its natural state, but also from a regard to the stronger aftergrowth which may be encouraged by the general diminution in length.

We have already spoken of peculiar developments of the hair in the human race, and to the cases already named—those of "Krao" and the "Kostromas"—we may add that of Julia Pastrana, who was exhibited in London, and who, in addition to a very highly-developed body-covering of hair, possessed a beard. Her little son was similarly coated with a hairy covering. Mr. Darwin has put on record several interesting cases concerning the influence of heredity or inheritance in producing peculiar traits of hair. Doubtless, baldness and paucity of hair is often an inherited state. "I knew," says Mr. Darwin, "an Irish gentleman who, on the right side of his head, had a small white lock in the midst of his dark hair; he assured me that his grandmother had a similar lock on the same side, and his mother on the opposite side." This and other cases of similar nature tend to impress upon us the truth that even the hair does not escape those laws of variation and inheritance which so powerfully affect the bodies of animals and plants, and the world of life at large.

(To be continued.)



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. VI.—THE SKELETON: THE SPINE.

BY A. J. MANSON.

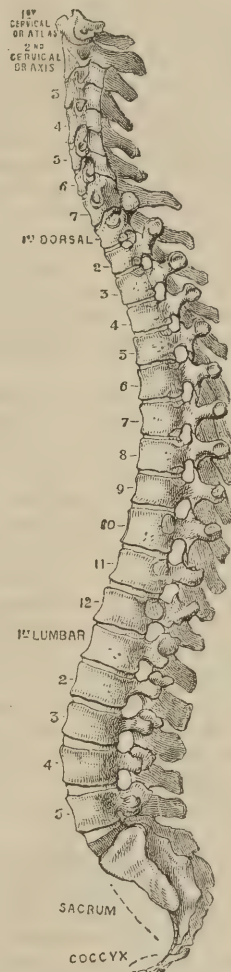
WE now proceed, diverging somewhat from the purely physiological side of things, to the study of the body's structure, or *anatomy*. "Physiology" itself we have seen to be but another name for the science of the body's *functions* or *duties*. But as the knowledge of what an organ *does* must be founded on a knowledge of what that organ *is*, it becomes clear that physiology must be based on anatomy. We must know the body's structure before we can properly and clearly understand its functions and life. Time was, when men feared to investigate the structure and build of their bodies; and the growth of medical science was hindered by the lack of knowledge respecting the nature of the frame which it is the business of medicine to heal when diseased. Now, however, the objections entertained by the ancients to the study of anatomy have disappeared; and the advance of modern education tends to show us that information concerning the build and functions of the human body is a branch of inquiry of immense service to the young, as forming a solid foundation for the knowledge of the laws of health. It is in this light, as well as in that which sees in the facts of our bodily structure a study of the highest interest, that we now proceed with our investigation of the body's structure and history.

The foundations of a knowledge of our bodily build may be said to be laid in a knowledge of the bony framework, which we familiarly know as the *skeleton*. This latter name is derived from the Greek word meaning *to dry*, and as bones are undoubtedly "dry" structures—in a physical sense, though not in an intellectual one—the term "skeleton" may be regarded as possessing a perfectly legitimate derivation. Used in a wide sense, the name "skeleton" might be applied to any hard parts possessed by an animal body. Thus we speak of an outer or "skin" skeleton, meaning thereby the hairs, nails, teeth, scales, and other structures borne by the skin of an animal and formed by its skin layers. The inner skeleton, on the other hand, is regarded as consisting of the *bones* and also of the *cartilages* (or "gristles") which enter into the composition of the frame. It is the inner skeleton (or *endo-skeleton*) which we have now to investigate—that bony framework which forms the support and foundation of the soft parts of the body.

Roughly speaking, a human body is divided into two chief regions—namely, *trunk* and *limbs*. The trunk is included under the name of the *axis*, or *axial* region, whilst the limbs are known as *appendages*. Hence we can speak of the *axial*, or *trunk skeleton*; and of the *appendicular skeleton*, or that of the limbs. The total number of bones in the adult skeleton is about 200. In the young state the single bones are more numerous; since, as growth advances, some bones which are free and separate in the young state, are united to form a single bone in the adult. We shall see that certain of the haunch-bones exhibit this peculiarity. The foundation of the skeleton is the *spine*, or *backbone*. This collection of bones (also named the *spinal column* and *vertebral column*), or its gristly representative, is found in all those animals known as *Vertebrata*. These animals, in fact, derive their name of "Vertebrates" from

the possession of this column, or chain of bones. They include five classes—namely, fishes, frogs and newts, reptiles, birds, and mammals. The latter animals, often named "quadrupeds" in a familiar sense, include man as their highest representative.

In the spine of man there are five distinct regions, and there exist thirty-three bones in all, in this part of the skeleton. Each bone of the spine is called a *vertebra*; and when the various vertebrae are duly examined, they are found to be constructed on a similar plan. Thus each possesses firstly a solid part, the *body* or *centrum*, which gives solidity to the spine. The "bodies" of the various vertebrae when united together, as in nature (see Fig. 1), form the solid part of the backbone. Between each pair of vertebrae there is interposed a strong plate of *cartilage* or *gristle* (the *intervertebral disc*); and it is by the yielding



The human spine viewed from the left side.  
 (The front of the spine bears the names and numbers.)

of these gristle-plates (also shown in our illustration) that we bend our backs through the flexibility thus given to the spine. The gristle-plates serve as literal "buffers," and prevent shocks being transmitted through the spine, with destructive force, to the brain.

The first region of the human spine is the *cervical region*, or that of the *neck*. Here we find seven vertebrae (see illustration). It is remarkable how closely the number seven is adhered to in the neck-bones of quadrupeds. The giraffe has precisely the same number of neck-bones as man. Only a sloth, which has nine neck-vertebrae, and another



sloth and the sea-cows, which possess six, present exceptions to this rule. The first vertebra of the neck, or that which supports the head, is called the *atlas* (see Fig.); and the second vertebra is named the *axis*. It is on this second bone that the head, together with the first vertebra, turns. The back, or *dorsal region*, succeeds the neck. In man's back, twelve "dorsal" vertebrae exist, each bearing a pair of ribs. In man, twelve pairs of ribs therefore exist; although, as we shall hereafter see, additional pairs may be developed. The vertebrae which succeed the neck, form the *lumbar region*, or that of the loins. Five lumbar vertebrae (see Fig.) exist; and we may also note how gradually the solid parts, or *bodies*, of the vertebrae increase in size from above downwards, until in the lumbar vertebrae these bones reach their highest development; an appropriate enough feature, seeing that the lumbar bones form the base of the column itself.

In the spine itself, so far as our inquiries have extended, we thus discover some 24 bones, free and separate, in the dried state, from one another. These are the 7 of the neck, 12 of the back, and 5 of the loins respectively. The next two regions of the spine present us with bones or vertebrae which are more or less modified and united together. Succeeding the lumbar region, we see the apparently single bone named the *sacrum*. The sacrum, as we shall see when we study the skeleton as a whole, is wedged in between the haunch-bones behind. It thus helps to form the important structure we name the "haunch," or *pelvis*. But when the sacrum, apparently solid and single in its nature, is carefully examined, we discover that it is composed of five bones, or *vertebrae*, which, as age advances, unite firmly together.

The last region of the spine is the *caudal*, or *tail-region*, often named the *coccygeal region*. It is formed by the *coccyx* (pronounced "cok-six"), (see Fig.) which consists usually of four small, degraded, and modified vertebrae, attached to the extremity of the sacrum. We thus discover that the human being really possesses a concealed and rudimentary "tail," since it is simply by the extension of the coccyx of lower animals that a tail is formed. A spider-monkey may have as many as thirty-three bones in his tail alone, and it may be added that in man's spine there are exactly that number of bones altogether. The twenty-four free vertebrae of neck, back, and loins, and the nine vertebrae (five to the sacrum and four to the coccyx or tail), make up the total to thirty-three.

The remaining features connected with the spine we must leave for our next paper.

**SCIENCE AND DRESS.**—The power of absorption of odours by dress fabrics, so far as colour alone is concerned, is in the following order:—Black, blue, red, green, yellow, white. So far as texture is concerned, the absorption of odours has been found to be in proportion to hygroscopic absorption. Woollen materials take up odours best. With regard to the protective influence of various dress materials against the effects of malarial emanations, the late Dr. Parkes wrote:—"It has been supposed that wearing flannel next the skin lessens the risk of malaria. As it is generally supposed that the poison of malaria enters either by the lungs or stomach, it is difficult to see how protection to the skin can prevent its action, except indirectly, by preventing chill in persons who have already suffered from ague; but the very great authority of Andrew Combe, drawn from experience at Rome, is in favour of its having some influence; and it has been used on the West Coast of Africa for this purpose, with apparently good results."—*British Medical Journal*.

## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

NO. VI.—DISINFECTION AND DISINFECTANTS (*Continued*).

AFTER heat and cold, as disinfectants, adapted to kill the germs and poison-matter of fevers and other infectious diseases, we may consider the properties of *charcoal*. This substance may be either obtained by burning vegetable or animal matter. *Animal charcoal* is esteemed a powerful *deodorant*, this latter name being given to any substance which destroys or conceals any offensive odour, *without necessarily destroying the poisonous materials*. Charcoal seems to condense gases within its pores, and it is further credited with oxidising offensive smells, arising from sewer gases, and allied sources of contamination. Roscoe, in his "Chemistry," says: "Charcoal is also used as a disinfectant in hospitals and dissecting-rooms, &c. It appears that the putrefactive gases, when absorbed by the charcoal, undergo a gradual oxidation from contact with the oxygen of the air taken up by the charcoal, and are thus rendered harmless." As a true disinfectant, or destroyer, of poisonous matter, charcoal should never be relied on. It is merely a handy and convenient substance for the abolition of foul odours, which are offensive to the healthy and sick alike.

The gas known as *chlorine* may be next treated. This gas is one of the elementary bodies (or "elements") of the chemist. To procure *chlorine*—which is a gas of a green-yellow colour (hence its name), and which does not, as a gas, exist free in Nature—is an easy matter. When we wish to manufacture chlorine for use in disinfection, and, therefore, in large quantity, we add two parts of water and two parts of strong vitriol (or *sulphuric acid*) to equal parts of common salt and binoxide of manganese. Another fashion of manufacturing chlorine is to add four parts by weight of strong muriatic (or hydrochloric) acid to one part of powdered binoxide of manganese; or we may procure chlorine readily enough by adding one part of vitriol to three parts of bleaching powder or chloride of lime. A little muriatic acid gradually added to a wineglassful of Cond's Fluid or to crystals of chlorate of potass will also evolve chlorine gas, or rather *euchlorine*. It is chlorine gas which is smelt when chloride of lime is moistened with water; hence *chloride of lime* itself is used on this account as a disinfectant. The odour of this gas is powerful and extremely disagreeable, and if incautiously inhaled, undiluted, may produce violent inflammation of the air-passages, or may even cause death. As an element, chlorine has a striking affinity for hydrogen; hence *hydrochloric acid* is formed by such a union, and the familiar bleaching action of chlorine is due to its power of combining with hydrogen of water, whilst the oxygen is set free. To enable this action to be effected the chlorine must be wetted. Dry chlorine gas has no bleaching action. On the addition of water, the oxygen is set free through the hydrogen of the water and the chlorine uniting together, the oxygen being left to attack the vegetable colouring matter, and to form other and colourless compounds.

As a disinfectant, chlorine is used in the form of the gas, and also in solution in water. Closets are said to be effectually disinfected by taking chlorate of potass crystals, as already described, and placing them in a wide-mouthed



flask containing dilute hydrochloric acid. The solution thus formed is of high value in closet-cleansing. Chlorine seems to destroy living matter which is prone to decay, and is generally used, as a gas, to purify rooms in which fever has been located. Many authorities prefer to use sulphur, which is certainly more readily applied and more easily handled than chlorine, which, however, decomposes *sulphuretted hydrogen gas* (that evolved from bad eggs and decaying vegetable matter) with great ease and rapidity.

Sulphur is largely used in disinfection in the form of *sulphurous acid gas*, which is obtained when sulphur is burnt in the air. It was this pungent gas we used to smell in the days of the old brimstone matches. Sulphurous acid gas acts as a bleaching agent, but in an opposite way to chlorine, for it unites with the oxygen of the water or colouring matter, forming sulphuric acid (or vitriol) and setting free hydrogen gas. Sulphur has always been in high repute as a disinfectant. Even the unlearned and ignorant are aware of its powers of destroying disease and of the freedom from infectious disorders which prevails near sulphur works and other places where the gas is evolved. The simplicity which attends the use of sulphur forms another recommendation of this substance. The sulphur requires simply to be burnt in quantity, in the apartment we desire to disinfect. One pound of sulphur, when burned, gives off eleven and a half cubic feet of its sulphurous acid or disinfecting gas. In disinfecting a room by means of sulphur, we are first careful to close every outlet—chimney, windows, doors, &c.—as thoroughly as possible. About 1 lb. of sulphur should be used for every 1,000 cubic feet of air the room contains. If the room is a long one, like a hospital ward, we should burn sulphur at several points in its length. Sulphur is most handily used by burning it in an iron dish or tray, which should be supported on cross-bars (or a pair of tongs) over a vessel of water. A little alcohol may be added to the sulphur, *à la* the Christmas-pudding, and then set alight. The iron dish may itself be first heated over a fire and the sulphur placed therein. The door then being shut, the gas should be allowed to diffuse itself thoroughly into every corner of the room. The room should not be opened for at least two hours afterwards. Another method of burning the sulphur in a room, is that of taking a large flower-pot and saucer, and inverting the pot in a large flat pan or vessel containing from 4 in. to 5 in. of water. On the pot place its saucer, and into the saucer put a few live coals along with the sulphur, and then keep the room closed for six or eight hours. When the room has been disinfected, a free draught of air should be allowed to play through it.

There appears to be no question of the value of sulphur and its gas as a means of disinfection. Experiments show that it kills the lower forms of life allied to disease germs with rapidity. By Baxter, the gas of sulphur is preferred to chlorine and carbolic acid, because of its readier solubility and power of mixing with air and fluids. A cheap, handy, and effective method of rendering our rooms pure after the fever patients have vacated them is thus found in burning sulphur. With such knowledge at hand, even the poorest amongst us need suffer no danger from fever-infection if they will but put this handy method in force. If articles of clothing, &c., be hung up in a sulphur-disinfected room for the purpose of being cleansed, it should be borne in mind that sulphur has a bleaching action, already mentioned, and is therefore apt to destroy such articles.

Regarding the fumes of *nitrous acid*, little need be said. The fumes are obtained by adding nitric acid and water to copper filings. These fumes are very penetrating and effective; but had better be left in medical hands for

application. *Iodine* is known as a powerful disinfectant and as an *antiseptic*—the latter name meaning an agent which destroys or prevents the growth of lower life. *Bromine vapour* was extensively used in the American war, but has not been much employed on this side of the Atlantic.

There exist a number of metallic substances used in disinfection, each of which has had its merits more or less extolled by various writers. *Bichromate of potash* and *chromic acid* may be dismissed with the remark that, whilst effective, they are much too expensive for ordinary use. *Cooper's Salts* consist of chlorides of sodium, lime, and magnesium. They are used as disinfectants for sewers and streets. *Green copperas*, or *sulphate of iron*, is very useful for the disinfection of manure and sewage. Pettenkoffer says this latter substance is the best for disinfecting cholera excretions. *Bluestone*, *sulphate of copper*, or *blue vitriol*, as it is named, has also figured in the list of disinfectants. A recent writer thus describes his experiences of this common substance which is poisonous, however, and should be used with caution:—

"I have lately used it in the case of a trouble to which English households are too commonly liable, and one that has in many cases done serious mischief. The stoppage of a soil-pipe caused the overflow of a closet, and a consequent saturation of floor-boards, that in time would probably have developed danger by nourishing and developing those germs of bacteria, bacilli, &c., which abound in the air, and are ready to increase and multiply wherever their unsavoury food abounds. By simply mopping the floor with a solution of these green crystals, and allowing it to soak well into the pores of the wood, they cease to become a habitat for such microscopic abominations. The copper-salt poisons the poisoners. Dr. Burg goes so far as to recommend that buildings, articles of furniture, and clothing, &c., should be injected with sulphate of copper, in order to avert infection, and in support of this refers to the immunity of workers in copper from cholera, typhoid fever, and infectious diseases generally. I agree with him to the extent of suggesting the desirability of occasionally mopping house floors with this solution. Its visible effects on the wood are first to stain it with a faint green tinge which gradually tones down to a brown stain, giving to deal the appearance of oak, a change which has no disadvantage from an artistic point of view. If the wood is already tainted with organic matter capable of giving off sulphuretted hydrogen, the darkening change is more rapid and decided, owing to the formation of sulphide of copper. The solution of sulphate should not be put into iron or zinc vessels, as it rapidly corrodes them, and deposits a non-adherent film of copper. It will even disintegrate common earthenware, by penetrating the glaze, and crystallising within the pores of the ware; but this is a work of time (weeks or months). Stoneware resists this, and wooden buckets may be used safely. It is better to keep the crystals and dissolve when required. Ordinary earthenware may be used with impunity if washed immediately afterwards."

We have still a few important and common disinfectants on our list, and these we shall consider in our next paper.

THE Duchess of Albany has fixed Tuesday, the 10th of July, for the ceremony of opening the new building for the Chelsea Hospital for Women in the Fulham-road, the foundation stone of which was laid by the Princess of Wales three years since. The Duchess, who will be accompanied by the Duke of Albany, the patron of the hospital, has consented to receive purses containing contributions of ten guineas.



## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### DOMESTIC WATER SUPPLY.

#### SECOND PAPER.

By W. IVISON MACADAM, F.I.C., I.C., &c.

*Lecturer on Chemistry, Edinburgh School of Medicine, &c.*

In our last paper we discussed the varieties of *hard* water. We may now give our attention to those of a *soft* nature—in other words, to those containing a small proportion of saline ingredients dissolved in them.

These waters may be derived from surface ponds or drainage, springs, wells, or rivers. Surface water should only be used where other sources are not available. They are extremely liable to contamination from decomposing animal or vegetable matter, the presence of which renders a water very injurious. It must not, however, be supposed that a trace of peat, giving a brown tint to the water, is hurtful, for such is not found to be the case. In fact, this condition is rather in favour of the water than otherwise; but should the brown colour be decided, then the undecomposing vegetable peat will most likely be accompanied by decomposing vegetable extract, and the latter is hurtful.

Drainage from fields or other cultivated ground should never, under any circumstances, be employed, as the manure spread on the soil must in part find its way into the water and render it injurious.

Well waters, especially those near houses, churchyards, middens, or other refuse, animal or vegetable heaps, should not be employed, as they almost invariably contain decomposing vegetable or animal refuse. This class of waters is very frequently bright and clear to appearance and sharp and fresh to taste, being generally, in country districts more especially, highly esteemed. This sharpness is due to the large proportion of carbonic anhydride (carbonic acid) present in the water, and is traceable to—first, the decomposing matter directly; and secondly, to the formation of nitric acid, due to the animal or vegetable decomposition. This acid, acting on the carbonates of lime (chalk) and magnesia in the soil, forms with them nitrates, and liberates the carbonic acid gas, which is dissolved by the water. If recourse must be made to wells, let such be as deep as possible; let care be taken to keep out all surface waters, and we should also fix upon a site for the well away from houses, cultivated places, manure heaps, or middens. Again, the nature of the soil must be studied, for, if loose and open, as when composed of sand or gravel, either wholly or in part, then the water collected may come long distances, bringing with it injurious materials. In these cases the dip, or inclination of the rocks, must be taken, and the well sunk in such a position as to insure that no water can by any possible means come from the injurious source.

Rivers and rivulets are frequently contaminated by manufactories and drainage of houses or fields. The source of the stream should always be thoroughly examined, and the supply only accepted when no house-drainage or manufactory refuse whatever finds its way into it. Whilst a long flow may to some extent settle out the more gross impurity, and partly oxidise the remainder, yet there are times of flood, or very low summer level, when materials highly injurious may be carried down. It is still an open question how far disease germs are rendered innocuous by the longest water carriage. The rivers or streamlets that

are to be used for the water supply of houses should be only those flowing through mountainous and thinly-populated districts.

Spring waters are those least liable to contamination, and most likely, therefore, to be pure. Care must here again be taken as to the probable source of the spring, for if the higher ground be manured or populated, or be occupied by graveyards, then the water is generally impure. For reasons previously stated, bad springs are generally very clear, gaseous, and sparkling.

Rain-water, especially when collected from the roofs of houses in towns, or near large manufactories, is not suitable for washing or cooking. The large proportion of soot-particles, street-dust, and other mechanical impurities, rendering it far from clean. A mechanical filter, composed of clean, sharp sand, will remove these suspended matters, and give a useful supply for washing. In the neighbourhood of large chemical works, rain-water is frequently acid in character from the large volumes of sulphurous acid produced by the burning of coal containing pyrites or iron sulphide. In large towns and villages the same remark applies. Even when collected in country districts, far from any chance of mechanical acid or disease-germ pollution, rain-water is tasteless and unpleasant to drink. This is due to the want of air in solution, and as these gases cannot be readily dissolved artificially in the water, the source will never be one useful for drinking purposes. Where, however, good soft water cannot be obtained in abundance, the washing of clothes, dishes, and personal cleansing can be satisfactorily accomplished by means of rain-water.

SOME time since we alluded to the work done in China by an American female physician, Miss Dr. Howard. She has attended the mother of Li Hung Chang, the great Viceroy, and now we read she is treating the wife of the same high official. The fame of the lady doctor appears to have spread far and wide over North China, and she is now flooded with applications for assistance and advice from the women of wealthy families, who would die rather than be treated by a foreign male physician. It looks as if the various countries of the East offered an almost inexhaustible field for women possessing medical knowledge and skill.

CREMATION IN JAPAN.—Cremation is becoming very general in Japan, and at the present time the number of bodies disposed of in this way is about 9,000 each year. The cremation chamber is built with stone and cement, and has a very tall chimney, which makes it look like a factory. In the vestibule are a number of red earthenware urns and small shovels, which the relatives of the deceased purchase to collect the ashes of the defunct. Behind this vestibule are four chambers, the largest of which is decorated with granite columns. The bodies are burned in this chamber at the rate of one yen (about 3s. 6d.) each, but the families who wish to have a private cremation have to pay five yens. After the funeral ceremony has been held at the house of the defunct, the body is moved to the place of cremation, and watched over by a priest until eight in the evening, when the fire is lighted, and burns all night. At six in the morning the ashes are collected and placed in an urn, which is interred, often with much pomp, at the cemetery. No unpleasant odour is emitted, either during or after the operation, and this is attributed to the high chimney. The simplicity of this process is remarkable, and it answers the purpose as well as the more complicated and expensive methods resorted to in Europe. The building itself is hedged in by fences of bamboo-caness and red camellias.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### PHYSICAL EXERCISE—WHAT IS IT?

BY CHARLES W. CATHCART, M.B., F.R.C.S.

(Lecturer on Anatomy in the Edinburgh Medical School, Chairman  
Edinburgh University Athletic Club, &c.)

As the subject of Physical Exercise is one which has an important place in the columns of HEALTH, and as we intend to discuss some of its aspects systematically, it will help us better to understand what may be afterwards said if we inquire briefly as to what Physical Exercise really means.

Most of us know that the framework of our body is composed of bones, and that we have things that are called muscles, but few of us are aware that muscles and flesh are the same thing, and that all the movements of the body are performed by means of these muscles. It is so, however, and "Physical Exercise" really means the use of our larger muscles—that is to say, those which move the body as a whole, or which act on the limbs, as distinguished from those which move the smaller parts of our body, such as our lips or our tongue.

When an anatomist examines particularly the fleshy mass which the muscles make up as a whole, he finds that the mass is composed of separate pieces, the fibres of which run each in its own way—*e.g.*, the grain of the meat. Then at each end of the separate pieces or muscles there is a kind of fibrous substance which is called the tendon, or leader of the muscle, and it is by means of this that the muscle acts on the bones; for we find that the leaders go to the bones, and fasten themselves to them, so as to take a firm hold of them.

There are altogether about 200 separate muscles in the body, and the variety of movement which we are able to exert is possible, because there are always several muscles going to the same part, but coming in different directions; so that when they combine in different ways they can alter each other's action to such an extent as to produce an almost endless variety of movement. Now, though we do not know how we excite our muscles, or which muscles we use in any given action, still it is only by practice that we learn to combine them together so as to produce some given movement. When we have gained by practice the power of making them work together in a special way to produce a certain result, we are said to have learned the "knack" of doing the thing. And we all know how some things which are difficult at first become so easy with practice that we may do them afterwards without thinking about it at all—such as walking, for instance, or playing the piano. But besides practice or use making it easier for us to do certain things from the muscles working better together, it is also easier, because the muscles themselves get stronger the more they are put into use. We all know how much thicker and stronger our limbs become, when we exercise them, and how they get thin and soft again when they have little work to do. This is just part of a general law of our whole body, which provides that when an organ or part is used or exercised it will always thereby grow to be more fitted for use another time, provided it is not used too much, gets enough nourishment from the blood, and is allowed a sufficient time to gather up its strength again.

But, in addition to these interesting points in regard to

the muscles, and to their contraction, as a result of nerve stimulus, we must note that each muscle has bloodvessels going to and from it. The one carrying pure, fresh blood to it is called the artery, while the one carrying the blood away again is called the vein. In the substance of the muscle itself the blood is circulated in very fine tubes, called capillaries, which, having very thin walls, allow the nutrient material to pass through them into the muscular substance, while the waste products resulting from the contraction of the muscle pass from it into the capillaries, and thence into the veins. Thus the capillaries are intermediate between arteries and veins, the current being always towards the veins, and because of the processes which go on inside the muscle the venous blood becomes impure, and is unable to support life till it is renewed again in the lungs. Venous blood has lost its oxygen, and has gained instead a large proportion of the noxious gas called "carbonic acid." As soon as the muscle contracts the blood begins to flow through it in a fuller stream, and at the same time more oxygen is taken from the blood and more carbonic acid is poured into it. These have the effect of making the heart beat faster to keep up the supply of blood, while the breathing becomes quicker and deeper in order to get more oxygen into the blood, and get rid of more carbonic acid. This is a fact which is familiar to all of us, though we might not have known the reason. When a person, for instance, runs quickly up stairs he gets out of breath, and he can feel his heart beating very rapidly. He is breathing much quicker than usual, but still he is out of breath, because the exertion has made a greater demand on his heart and lungs than can be met just at the time, so the effect takes a little time before it passes off. We thus see that muscular exercise calls into play not only the parts which are immediately acted on, but it also calls out the activity of the heart and lungs and those muscles which move the chest, so as to enable us to draw the air in. But there is another point which we must not forget, and that is that the bones are not like so many pieces of hard, unyielding wood, which remain always the same without any possibility of change. They are hard enough, certainly, in virtue of lime salts which are deposited in them, but they are living things, too, and can grow bigger and alter their shape just as other parts of the body do. The interest and importance of this is that the pull which the muscles make on the bones not only moves them at the time, but excites them to grow stronger and bigger, so that when young persons exercise their muscles so as to make them stronger and firmer, not only are their lungs and heart exercised at the same time, but their bones are excited to grow also, and thus the very framework of the body is improved at the same time.

In this way we can explain many of the advantages of physical exercise, especially for the young. The blood is made to circulate faster, the chest moves more freely, the lungs expand more fully, and the bones and muscles are exercised, so that they tend to increase in size and strength. It will be easy to see that while a child is growing these influences will have a most important effect in giving a mould and form to the frame, which will be more or less permanent in after life. It is therefore essential not merely that children should have their due share of recreation (*re-creation*), but that this should, to a considerable extent, take the form of active romping play in the open air, or of such energetic games as their age, sex, and circumstances may determine.

THE first monthly part of "HEALTH" will be published at the latter end of the present month, and will include Nos. 1 to 7. The price will be 1s. 4d.



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

**LADIES' DRESSES AND COMFORT.**—It is, of course, not easy to have clothes adapted to every occasion, especially if they are to be picturesque. A Frenchwoman contents herself with a few very well-made and not too showy dresses, with everything thereto pertaining complete. Should some opportunity arise when none of them will do, she remains at home. Now, though an Englishwoman often possesses many advantages over women of other nations, the very charm and originality of her appearance proves her snare. She is apt to be misled by ideas taken from pictures and poetry, but

A sweet disorder in the dress,

And

A careless shoestring, in whose tie  
I see a wild civility,

are better in verse than in prose. Dress may and ought to express the character and idiosyncrasy of the wearer, but never at the expense of fitness and neatness. The impress of the mind upon dress is often seen in the case of ladies who hunt and race. The necessity of taking quick decisions clears their ideas, and they always know exactly what they want. Their appearance is the acme of neatness, but shows neither variety nor imagination. With artists it is the contrary: a certain negligence of attire and eccentricity in shape and colour indicate a turn of thought speculative and ideal. Anything too much like a costume, be it ever so pretty, will look out of place in the streets or other public resorts; but it is quite legitimate to go for inspiration to the apse of "Michel Angelo's Bride" for a dressing-gown to be worn only in your own sanctum. Dressing for effect in bad or inferior stuffs ever denotes an unreal and unrefined mind; simplicity of outline is the basis of grace; richness ought to depend upon the fabric itself, not upon the mass of trimming. Cottons and muslins must be simple and dainty, easily washed and cleaned; their charm depends entirely upon the sensation of crispness and freshness they give to the beholder. Bows and buttons ought to be put where they are wanted or where they might appear to be of use, and not unmeaningly scattered about in promiscuous places. The wonderful dignity and finish we admire in mediæval dress depends mainly upon all the ornamentation being based upon necessity.—*Lady Paget, in the Nineteenth Century.*

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**HOT WATER AS A DRINK.**—A physician writes, in the *World of Science*, as follows:—"The habit of drinking strong tea or black coffee directly after dinner is especially bad, and certainly interferes with digestion. At breakfast-time a healthy man has all his sleep in him, and surely it is then unscientific for him to inflict upon his system strong tea or coffee. At 'tea-time,' tea or coffee may well be indulged in moderately; the bulk of the day's work is done; the body not only wants rinsing out, but fatigue is felt which may well be counteracted by the use of a mild stimulant, such as tea; and bed-time is not yet so near that sleep is thereby interfered with. Most nations that drink coffee largely get a sallow skin; and I am inclined to think that the carbonaceous matter of the roasted coffee, when so largely and frequently taken, may perhaps have something to do with this. For hard-working people, who are not corpulent, I should

suggest the thick flake-cocoa as the healthiest and most nutritious breakfast beverage. For those who do not want fattening drinks, and who often cannot digest cocoa, I should say drink hot water at breakfast. Those who dine late, and make their dinner their main meal, need a diluent drink an hour or two afterwards; and, if they drink tea, it keeps them awake, or makes them irritable and nervous. I find, for myself, that dining solidly, as I am obliged to do when I have done my work (7.30 p.m.), and often needing to work from 9 to 11, a tumbler of hot water brought into my study or laboratory is the best and wholesomest drink, and, after a few evenings, it will be as much relished as the usual draught of tea. The hot water assists to complete the digestion of residual food, it acts upon the kidneys, and rinses out the effete matters, and thus will be found to wake one up sufficiently, and neither to injure the stomach nor to keep the brain awake after bedtime. In cold weather, warm water is by far the best drink at dinner-time; and, in hot weather, a draught of warm water is far wholesomer and more cooling than cold or iced water."

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**PUBLIC BATHS AND LAUNDRIES.**—It is not necessary to insist on the erection of public baths in a Health Resort. The necessity is granted. I must, however, say a word about the public laundries that are all but universally called for. Perhaps in English towns we are as well off in respect to laundries as anywhere, and yet the old saying that "bad's the best" was never more applicable. In the construction of the public laundry there is really little to learn, as any one will see who will take the pains to inspect a model laundry, like that, for example, in the Grand Hotel at Brighton. Yet there is one thing much wanted, and that is the introduction of this model institution everywhere. Double injury springs from the present system. In the small houses of the poor, in which so large an amount of laundry work is going on, the atmosphere is over-charged with moisture, and the poor children of the workers are exposed to many acute diseases, especially to croup, from this cause. That is evil number one. Evil number two is more extended and extensive: I refer to the danger—always imminent from the laundry, in which there is no separation of infected from uninfected clothing, and no disinfecting chamber for infected clothing—that the poisons of the infections shall be conveyed by clothing into the homes of the healthy, an accident which is so easy to accomplish, the wonder is that it is not more frequently accomplished.—*Dr. Richardson, in Longman's Magazine.*

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**A NEW DISEASE.**—A Californian physician who discovered a new disease—love madness—has been experimenting with the person afflicted therewith, and has produced the "love parasite," or *Bacillus micrococcus*. This he cultivated up to the twentieth generation, and with the parasites of that generation he inoculated a number of subjects. This inoculation was invariably successful, symptoms of the disease appearing a very short time after the operation. A bachelor, aged fifty, on the first day after the inoculation had his whiskers dyed, ordered a new suit of clothes and a set of false teeth, bought a top buggy, a bottle of hair-restorer, a diamond ring, and a guitar, and began reading Byron's poems. The inoculation produced symptoms of the same nature in a young lady of forty-five. She spent five dollars at a drug store for cosmetics, bought a lot of new hair and a croquet set, sang "Empty is the Cradle," sent out invitations for a party, and complained that the Chico young men do not go into



society. An inoculated youth of seventeen, employed in a country store, did up a gallon of molasses in a paper-bag, and also, in a fit of absent-mindedness, put the cat in the butter-tub and threw some fresh butter out of the window. Finally, he sat in a basket of eggs while looking at a photograph of a pretty girl, and was discharged for his carelessness. The Chico doctor is still experimenting, and will soon lay the results of his observations before the medical world.—*New York Medical Record*.

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**BUTTER-MAKING.**—With regard to systems, England need desire no method of butter-making better than her own, but Eastern nations can tell us how to pack and keep butter. We are able to manufacture numerous cheeses which are admired wherever our produce is known, but our wealthier classes are large consumers of tasty Continental cheeses; hence a practical knowledge of the systems by which they are made would be valuable to those who are far-sighted enough to see how well they would pay, and who know what an enormous quantity is sold in London and other large centres. There is another subject which has a marked influence upon the home production of cheese and butter, and that is the diminution of our dairy cattle. The number of cows in calf and in milk is considerably less than in 1876 and 1877, and, although young stock will have come into the dairy in large numbers during the year 1882, they will by no means be equal to the demand for butter, without any regard to cheese. In his opening lecture at the Downton Agricultural College, Mr. Sheldon said: "It is computed that the dairy cows of these islands yield each on the average about 440 gallons of milk per annum, and this is making due allowance for inferior milkers, and for stirks and heifers, whose yield is generally smaller than that of full-matured cows." Now, if we base our estimate on a minimum number of 3,700,000 cows in milk, and this is making a due allowance for deaths and abortive milkers, we have an annual production of 1,628,000,000 gallons, which, valued at sevenpence a gallon, is worth £47,000,000 a year. We should impress upon our farmers that, much as the English people desire quantity in home-grown food, quality is the chief attribute to which they should direct their attention. The lack of quality in butter has been the chief cause of the appearance of its tasty imitation, for consumers, and especially those of the lower classes, prefer it to what may be termed pure seconds. Inferior butter and cheese cannot be systematically sent into the market at a remunerative price, but imitations agreeable to the palate are largely consumed. These have consequently interfered very seriously with legitimate dairy industry, and they will continue to do so until producers have entered more heartily into the improved systems of manufacture of the genuine article which are continually preached to them.—*The Field*.

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**BETEL-NUT** chewing is universal among the inhabitants of the Malay Peninsula. The betel-nut seems as essential to a Malay as tobacco to a Japanese, or opium to the confirmed Chinese opium-smoker. People say that the craving for stimulants is created by our raw, damp climate; but it is as strong in the sunny, balmy air at the equator. I have not yet come across a region in which men, weary in body or spirit, are not seeking to stimulate or stupify themselves. The Malay men and women, prohibited by the Koran from using alcohol, find the needed fillip in this nut, but it needs preparation before it suits their palates. The betel-nut is the fruit of the lovely, graceful, slender-shafted areca palm.

This tree at six years old begins to bear about one hundred nuts a year, which grow in clusters, each nut being about the size of a nutmeg, and covered with a yellow, fibrous husk. . . . The *Sirih* leaf was smeared with a little fine lime taken from a brass box; on this was laid a little brownish paste, on this a bit of the nut; the leaf was then folded neatly round its contents, and the men began to chew, and to spit, the inevitable consequence. The practice stains the teeth black. The Malays think that you look like a beast if you have white teeth.—*Leisure Hour*.

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**HYGIENE OF WRITING IN SCHOOLS.**—An interesting paper has recently been published by Berlin on the influence upon the eyes and the spines of school-children which so simple a matter as the position of the copybook in writing may exert. It is based upon the report of a commission appointed to investigate the effect of slanting writing in the schools of Würtemberg. In writing or drawing with straight lines, the visual axes move, by preference, in two general directions, vertical and horizontal, because in looking upwards or downwards, or to either side, their paths are straight, while in diagonal movements they describe a curve. It was discovered that 93 per cent. of the children who were under observation made the down-strokes in a direction nearly at right angles with that of the base line—i.e., the line connecting the centres of the rotation of the two eyes and forming a triangle with the visual axis in convergence. This is done with the least strain when the copy-book is tilted towards the left; when the child is compelled to write with the book parallel to the edge of the desk, he brings the base line perpendicular to the down-strokes by turning his head towards the right and twisting his spine. This contortion brings the eyes nearer to the page, and the left eye nearer to it than the right. In a discussion on this subject at the meeting of the Ophthalmic Society, at Heidelberg, Laqueur and Manz favoured the slanting system of writing with an oblique position of the book, on the ground that it throws the work more on the flexor muscles of the forearm, which are naturally stronger than the extensors, and Berlin dwelt upon the fact that this system admits of greater rapidity of execution. The surface of the common slate being shiny, and presenting an insufficient contrast with the letters, necessitate a nearer approach of the eyes, and consequent excessive accommodation and convergence—the most important factors in the development of myopia—and Cohn has, therefore, caused artificial white slates and special pencils to be manufactured, which offer the conveniences which have given the old articles universal currency among former generations of children without their hygienic defects.—*Lancet*.

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**THE FACTORY INSPECTOR AND BAKEHOUSES.**—One occupier, who allowed an open sink to stand in his bakehouse, has been prosecuted and punished. Another, who made his bakehouse a habitation for fowls has also been fined. The horse found littered beside a third bakehouse has been removed, and the stable pulled down; the liquid manure found running under sacks of flour has been stopped; and even in the luxury of tobacco-smoking when at work, the Inspector has only jotted down some eighteen instances. All the bakehouses in the locality have further been lime-washed more or less frequently during the year; the practice of accumulating heaps of refuse under troughs has largely decreased, and traps to sinks are not found broken or lost to the same extent. Still no advance is apparent in ventilation, a circumstance that is not to be wondered at



when it is remembered that most of these bakehouses are situated in basements where there is an inherent difficulty in combining a free circulation of air with the desire to avoid draughts, as well as with the necessity of maintaining a high temperature for considerable periods. The task of inducing the owners of bakehouses to keep them in a cleanly state, as regards the removal of dirt and refuse and the mass of waste flour and scraps of dough, appears to be one of the most difficult the Inspectors are called on to discharge. In this respect the official whose district lies south of the Thames declares the confectioners to be the greatest sinners. "As a rule," he says, "bakehouses where only bread is made are cleaner than those premises where pastry and confectionery of various kinds is made. The use of suet, butter, jams, &c., makes this latter class of bakehouses very dirty, and much more diligence is required to keep them clean, and this is not always forthcoming." It is very evident from all this that radical reforms are yet necessary before many of the bakehouses described by the Inspectors can be looked upon as fit places for the preparation of food. By a vigorous application of the present law, such as is now being carried out under Mr. Redgrave's directions, several of the existing evils can no doubt be mitigated. But, unfortunately, the law does not go far enough. It places no power in the hands of the authorities to order repairs of flooring or ceiling, to interfere with bakehouses being underground, or to prevent sinks and drains in bakehouses. Where the regulations are weak or defective on these points, Mr. Redgrave suggests that they should be strengthened."—*Glasgow Herald*.

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**EXHAUSTED LINSEED MEAL AS A MATERIAL FOR POULTICES.**—M. Lailler writes, in the *Répertoire de Pharmacie*, that linseed meal which has been deprived of its oil is far superior to that which is freshly ground and used in its natural state, and quotes his own experience and the authority of Deschamps in proof of this statement. The latter says, "The oil of the grain is so imprisoned by mucilaginous matter when warm water is added to the linseed meal that no one has ever observed any trace of the oil; neither the linen nor the part poulticed is ever greased." When the oil is present, it quickly becomes rancid, and seriously affects the skin. M. Lailler finds that the meal deprived of its oil makes a lighter poultice, which retains its heat longer, and is less liable to cause unpleasant results than one made of oily meal.—*Chem. and Drug*.

\* \* \*

**IMPORTATION OF OPIUM IN THE UNITED STATES.**—It is stated in the *Philadelphia Medical Times* of Dec. 2, 1882, that in the year 1880 there were imported into the United States the enormous quantity of 372,000 lb. of opium, which is equivalent to nearly three million of doses. But the United States is a large country, and so even this enormous number of doses means only one dose a year for every sixteen persons. When it is remembered how freely opium is used externally, it would seem probable that the quantity is not beyond what is required for proper medical use, and that the opium habit about which so much is written requires no perceptible allowance for its gratification.

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**A SAFETY DRINK FOR WORKPEOPLE** in lead factories is a description of treacle beer, the recipe of which was procured by Mr. Norman Cookson (Cookson & Co., Hay-hole Lead Works, Northumberland Dock) from a medical

gentleman. The beer is carefully made, bright in colour, and to thirsty working men and women is altogether an agreeable beverage. The principal ingredients used in its manufacture are water, treacle, ginger, and a ferment; to these is added a very small proportion of sulphuric acid, one effect of which is to impart to the compound a pleasant acidulous taste. The object of this admixture is to convert, by means of the acid, any of the lead which may have lodged in the mouth, throat, or stomach, into sulphate of lead. In this form, the poisonous matter is not absorbed into the blood, but is passed out of the system. Each person employed in the works is entitled to receive half a pint of this beer between the hours of half-past two and three p.m. It is exceedingly popular, and none of them ever dream of missing it.—*Mineral Water Trade Review*.

**TOBACCO STATISTICS.**—The most recent returns on the production of tobacco in various countries gives the following results:—Asia produced 31,000 quintals (100 lb. avoirdupois) of tobacco; Alsace-Lorraine, 160,000; Bavaria, 156,000; the Duchy of Baden, 242,000; North Germany, 100,000, of which Prussia furnishes the fourth part; the Low Countries furnish 85,000 quintals; Italy, 93,000; Russia, 180,000; Austria, 1,000,000. In America the Brazils produce 300,000; Cuba, 610,000; North America, 3,400,000. The total quantity produced amounts to 18,000,000. The annual quantity consumed in Russia, France, and England is at the rate of 1 lb. per inhabitant; in Italy at the rate of 1½ lb.; in Austria, 2½ lb. In the United States and Germany, 3 lb.; in Belgium, 4½ lb.; and in Holland, 5½ lb.

**BRACES OR WAISTBAND?**—Having worn a Spanish sash for some time many years ago while walking in the Pyrenees, I am decidedly of opinion that the weight of the trousers is supported much more easily and pleasantly by a sash than by braces; these last are narrow, about 2 in. wide, and though custom enables us to wear them without conscious inconvenience, I think any one using them for the first time would find them very unpleasant. The sash worn by the middle and lower class in Aragon is of wool, 8 in. or 9 in. broad, and (if my recollection is correct) about 4½ ft. long; when of such width and length it does not need to be drawn tight, but only closely wrapped round the waist and the end tucked in. I should certainly wear one constantly, but that I do not wish to have an eccentric appearance. Medical men, I believe, attach great value to the wearing of sashes or bands round the stomach, especially in hot countries. A narrow silken sash, which must be drawn tight, is, I should suppose, far less pleasant to wear.—N.

**NEW RECIPE FOR CAKE.**—A fashionable young lady visited a cooking-school a short time ago, where her attention was equally divided between a new dress worn by an acquaintance and the directions for making cake. Upon returning home she undertook to write down the recipe for making the cake for her mother, and the old lady was paralysed when she read: "Take two pounds of flour, three rows of plaiting down the front, the whites of two eggs cut bias, a pint of milk ruffled round the neck, half-a-pound of currants with seven yards of bead trimming, grated lemon peel with Spanish lace fichu; stir well, and add a semi-fitting paletot with visite sleeves; butter the pan with Brazilian topaz necklace, and garnish with icing and jetted passementerie; bake in a moderately-hot oven until the overskirt is tucked from the waist down on either side, and finish with large satin bows." Her mother said she thought these new-fangled ideas in cooking ought to be frowned down.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Mechanical Exercise a Means of Cure*; Being a description of the Zander Institute, London (7, Soho-square). Edited by the Medical Officer to the Institution. (London: J. & A. Churchill, 1883.)

THE application to medicine of the principle involved in ordinary "exercise"—namely, that of bringing into action muscles not ordinarily employed in work, or which tend to exhibit inherent weakness—has of late been very prominently brought before the medical profession and public by Dr. Zander, of Stockholm, of whose institution, as established in London, the volume before us forms a clear and interesting description. It is a remarkable fact that from Sweden have come the most successful applications of "exercise," viewed in the duplex sense, as an aid to health, and a means for the cure of disease. The "Ling System" of gymnastics has been long in practice in Swedish schools and gymnasias, and is beginning to be favourably regarded in this country. The systematic treatment of the subject of exercise, and its reduction to a scientific basis, are the salient features both in Ling's system and in Dr. Zander's institution. It is satisfactory to be able to place on record the fact that, in the case of the Zander system, the benefits of the mechanical exercises carried on in the institution in



Fig. 1.

question, are being largely taken advantage of by medical men in the treatment of many otherwise incurable or obstinate diseases.

The volume before us is a descriptive guide to the London Institution in Soho-square, where Dr. Zander's appliances are exhibited and used. A visit paid to the Institution served to familiarise us with the details of the Zander method, and to impress us very favourably with the exactitude, care, and scientific skill exercised in the construction of the machines, and in their application to different and widely-varied diseases and affections. We learn that in the Zander, as in the Ling system, exercise is divided into two classes—active and passive. In the former, the patient or subject exercises his muscles and joints actively, or he executes the movements which the

machinery or apparatus compels him to make. In the passive exercise, the subject remains still, and the exercises are performed upon him without involving exertion on his part. The Zander method, availing itself of the Ling principles, began with the construction of a variety of machines, each constructed for the performance of a special exercise, and adapted to correct or to tone any faults of bodily or muscular development falling within the particular scope of the apparatus. The numerous complaints—or forms of exercise required in health—to which the Zander method is applicable, necessitated the construction of a large number of different machines, and the mere variety of apparatus is not the least interesting feature of the institution under description. The principle on which the machines are constructed is that of the lever; and as the levers of the various machines can be graduated to a nicety, it is not surprising to find the Zander system adapting itself as perfectly to the youngest child as to the strongest subject. So valued in Sweden, by the healthy population, is the Zander Institution, that at Stockholm alone 400 persons daily practise gymnastic and scientific exercises. It is to be hoped that in Britain the popularity of this excellent Institution and means of physical culture may attain a like success.

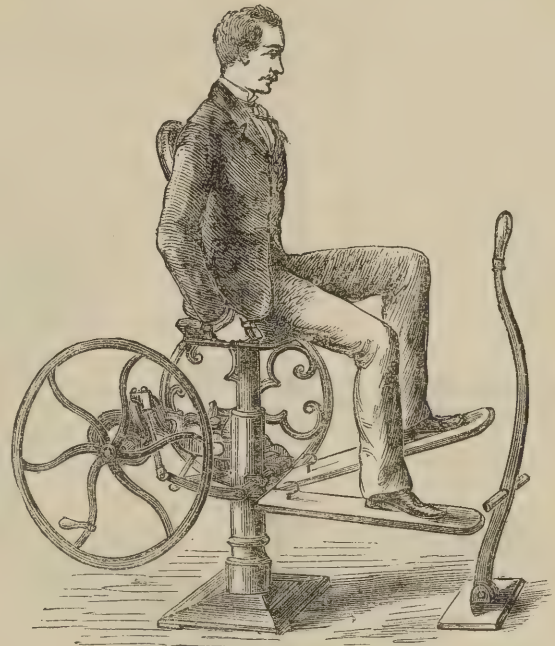


Fig. 2.

Four classes of machines are included in Dr. Zander's system. These are apparatus adapted for active movements of the arms, legs, trunk, and for passive movements respectively. Suppose, for example, that a person has suffered from rheumatism of the wrist-joint—a most troublesome affection, and one which leaves such an amount of stiffening as often to incapacitate the subject from moving the hand. Hitherto, one of the greatest difficulties in the way of treating such cases has been the impossibility of procuring the regular, steady, application of exercise, whereby the joints are made naturally movable, and the muscles toned to their natural state. At the Zander Institute such a patient (or one suffering from sprained wrist, or partial paralysis of hand and arm) would be set down, under medical direction, at the machine represented in Fig. 1. Here, by the regulated movements of the



revolving handles, a form of exercise would be secured eminently adapted to give tone to the muscles of wrists and forearms. The levers at the sides of the machine can be so graduated as to make the exercise heavy or light, as required. The patient's fore-arms rest on the table, the hands grasp each a revolving handle—as shown in the woodcut—and the side levers provide the necessary resistance, to overcome which is the aim and gist of the exercise. In this machine resistance is offered to the hand being bent downwards, but a simple adjustment renders the resistance capable of being offered to the upward turning of the handle, as when the wrist is extended.

In our second illustration (Fig. 2) a velocipede is shown. The feet are secured to the footboards, and the fly-wheel, being put in motion by the right hand, the feet and legs maintain the movement. Here the hip, knee, and ankle-joints are exercised, and the muscles that extend and flex the joints are also put in action. The movements here can be exactly regulated, as in the other machines, and the exercise here represented has been found very serviceable in ordinary rheumatism of the legs, in sciatica, and in

for those of the back also, whilst in cases of curvature of the spine this exercise, practised on one side, is found to have a marked effect on that disease. The shoulder-joints are also well exercised by these actions.

Space would fail were we to attempt to given even a mere outline of the numerous and varied forms of apparatus seen in operation at the Zander Institute. Apparatus for strengthening the back, for curing stiff joints of all kinds, for rotation of the shoulder-joint, and for many other forms of exercise are all duly represented. Not the least ingenious are the machines for "shampooing" the arms and legs, a valuable remedy in rheumatism, and for giving friction to the feet. Vibrating machines for shaking the body (useful in chest and heart complaints); curious "tapping machines," effective in lumbago, constipation, &c.; and the "saddles," by which the movements of the horse are exactly imitated, are amongst the furnishings of Dr. Zander's Institution. Those of our readers, lay and professional, who may be interested in scientific gymnastics as applied to healthy bodies, or in the alleviation of disease, cannot do better than pay the Institution a visit, and inspect for themselves the interesting and ingenious apparatus it contains. Not a few of the machines should be found in every gymnasium conducted with any pretensions to scientific principles.

*What to do in Accidents and Sudden Illness.* By PHILIP FOSTER, M.D. (Leeds: F. R. Spark.)

A HIGHLY instructive, able, and interesting manual for the home and the traveller. Dr. Foster includes in this little work much handy information (*e.g.*, the rearing of children, sick nursing, &c.) which we do not usually find in works bearing the above title. But there can be no cause to grumble at fulness of information, and we must commend this work very highly indeed, as a capital guide for the public in cases of illness. A full index, however, would certainly have added to the value and handiness of the book.

## Sanitary Appliances, &c.

"RATIONAL DRESS"—for gentlemen, at least—must include a comfortable pair of braces. "Who ever heard of braces which were comfortable?" may be the echo to this remark. Those who wish to be utterly free in their movements discard the braces, and adopt belts, more especially in gymnastic exercises, or even in ordinary walking. But the belt is itself liable to become uncomfortable, or even injurious. Hence the gentlemen are in a quandary—or rather *were* so situated—for in the "Argosy Braces" there appears to be found the solution of the "easy brace" question—that important topic for the male mind. After a fair trial of these braces, we can pronounce them thoroughly reliable. By a system of ingenious little pulleys, the braces adapt themselves to every movement of the body, and are further light and agreeable to wear. One may safely and comfortably play billiards, cricket, row, or even "trapeze" in the "Argosy Braces," which, we trust, will put the clumsy "trappings of lugubrious uneasiness," as presently worn, entirely out of existence.

FLETCHER'S FAMILY FOOD.—Messrs. Fletcher & Co., 42, Wilson-street, Finsbury-square, have submitted to us a sample of their "food." This preparation is highly palatable, and contains a considerable percentage of bone-forming matter. It should form a favourite dietary, not only for the hale, but for invalids and children, as it can be put to all the uses for which corn-flours are usually employed.

"BARNES'S IMPERMEABLE OPIUM POULTICE" is a handy plaster, neatly rolled in a case, and well adapted for instantaneous application in all cases in which the soothing effects of opium applied externally are required. It is vastly superior to the common method of application by liniment or fomentation.

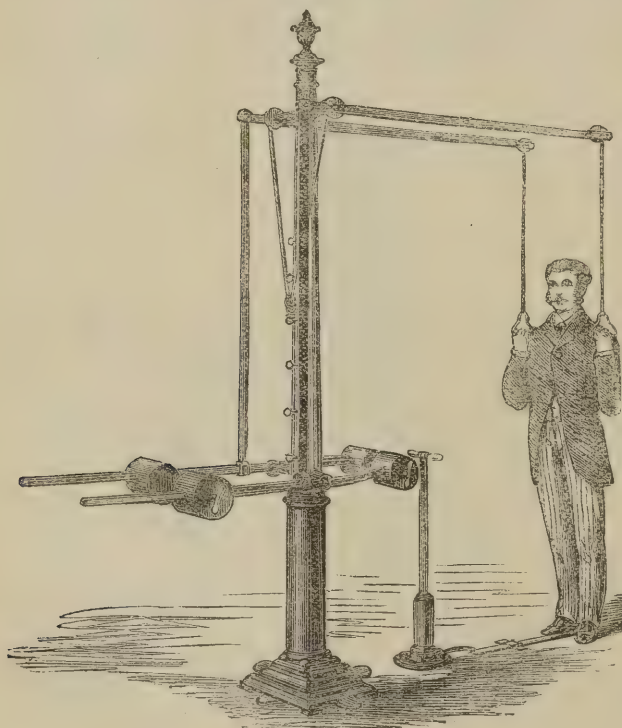


Fig. 3.

feeble circulation in legs and feet. For elderly persons this apparatus is specially commended, and as engine-power can be applied to this as to the passive machines, the movements can be executed passively, without any exertion on the part of the patient. In Fig. 3 a useful apparatus for securing the efficient working of the fore-arm and shoulder-joint is seen. Here, also, a highly-important chest-exercise is included. The patient grasps the handles of the machine, which act on the weighted and adjustable levers, the arms being stretched upwards whilst he grasps the handles. The exercise consists in drawing down the arms, and thus pulling on the weighted levers—the head being held well up, and the chest thrown forward—until the hands are on a level with the shoulders. The elbows should be brought to the side of the body, and "carried well back," when the arms are then allowed to resume their first position. Here we secure exercise for the great chest muscles, and



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, MAY 25, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

Is longevity decreasing? is a question frequently asked, but rarely answered. Perhaps it is only a happy chance or combination of circumstances, after all, but the *Standard* last week published, in a single day, a remarkable series of obituary notices. The total years of nineteen persons, all over sixty years of age, whose deaths were thus chronicled, numbered 1,496. One had attained the age of 92 years, another died at 90, five exceeded 80 years, nine were over 70 at death, and three over 76. The average age was 78 years and six months. It might form an interesting study for those with a little leisure time on their hands, to chronicle day by day the ages of long-livers as reported in our newspapers—although, indeed, the Registrar-General accomplishes this duty for the nation at large.

A TOPIC naturally attracting attention whenever it happens to be ventilated, is that of slaughter-house reform. Our vegetarian friends would advise us to do without abattoirs altogether; but so long as we are carnivorous, in part, at least, it is our duty to see not only that the flesh we eat is good, but that the animals which furnish such food are mercifully despatched, and without cruelty or bungling. We remember visiting a rural slaughter-house in days gone by, and we must avow that, as practised by the butcher there, killing was both a speedy and merciful death. The bullock's head was rapidly drawn to the ground by a rope passing through an iron ring fixed in a stone slab. Immediately, and with lightning quickness, a blow from the poleaxe rendered the animal absolutely insensible from brain concussion. The blow was as effective, indeed, as a pistol shot. Then the animal was bled, and the unconsciousness simply deepened into death. We can readily sympathise with the expression of opinion from the practised butcher that such a mode of killing is as swift and as painless as it is possible to make the operation.

THE new abattoir system, propagated by the "London Model Abattoir Society" (whereof Mr. Lester, 3, Elm-court, Temple, is the honorary secretary), is a move in the right direction. London wants public *abattoirs* very badly, and the establishment of a series of these buildings, well-ventilated, rigidly clean, and continually supervised, would

do more to prevent cruelty, and to ensure a supply of fresh meat, than almost any amount of inspection. We must all desire to see the nine hundred or so of private shambles in London abolished; for as often as not, the latter constitute a nuisance wherever they are placed, and there is no check to any inhumanity which may be practised therein. The officers of the Society for the Prevention of Cruelty have no *legal* right to enter a butcher's premises.

ONE of the dangers of "false teeth" consists in the occasional liability of their owners to swallow their masticating apparatus. Recently one or two fatalities of this nature have been reported. It is most earnestly to be desired, firstly, that false teeth should invariably be removed from the mouth before their owner retires to rest, and this for sanitary reasons, as well as for personal safety; and, secondly, that the teeth should be frequently inspected to ensure their firmness. This latter remark applies especially to teeth which have been long in use.

THE "Vaccination Question" is perpetually cropping up, not merely in Parliament itself, but in coroners' inquests and elsewhere. We strongly sympathise with the remarks of Dr. Bridges, in an address delivered some years ago, before the National Health Society, if we mistake not. In that address, which was subsequently published in the *Fortnightly Review*, Dr. Bridges remarked that the man who refused to accord to his child the protective influence of vaccination should be regarded as qualifying for a species of manslaughter, whilst the careless doctor, on the other hand, who failed to see that the vaccine matter he used was pure and good, was a homicide no less. These ideas appear to us to place this very turbulent topic on its proper footing. Good and careful vaccination, we believe, has been fully proved to be an immense boon; but bad vaccination, as the Highlander said of "bad whisky," is a terrible and often irreparable misfortune.

DR. CARPENTER's letter, published in the *Daily News* of May 12, should be carefully perused by all interested in the subject. We intend to republish Dr. Carpenter's communication in our next issue.

THE fifth annual report of the "Connecticut State Board of Health" has just reached us. Our "American Cousins" appear fully alive to the benefits of vaccination—always taking that statement to mean the carefully-conducted process with pure lymph. There we read that "the saving of life by vaccination every year is equal to one-tenth of the standing armies of Europe." In Sydney, New South Wales, also, "severe and fatal cases (of small-pox) were the rule, without exception," "in every instance where vaccination was refused."

THE renewal of the feud against compulsory vaccination will draw forth many and conflicting expressions of opinion—lay and professional. No one can object to the free ventilation of the topic; but we cannot avoid expressing the wish that the subject may be argued calmly in the light of facts, and that it may escape the inevitable confusion which attends discussion wherein personal feeling runs high.

MR. COMMISSIONER KERR recently gave a decision in the City of London Court, which will cause the hearts of sanitarians and householders to rejoice exceedingly. A



builder sued a widow for the rent of his house. The widow entered a counter-claim for £10, as damages for breach of contract, and also for illness and loss sustained through the bad drainage of the premises. The state of affairs was insanitary in the extreme. After eleven years' tenancy, the widow, along with her son and lodgers, had been driven out by the horrible condition of the drainage. The landlord pleaded that he had done all that he was liable to do under his contract. It is evident, however, that the contract in question did not compel the tenant to keep the house in a healthy state. Mr. Commissioner Kerr, accordingly, taking this view of matters, gave the widow a verdict, adding that he would have given much higher damages had he been asked. After such a decision, there seems some prospect of the public being able to reach landlords and others who are disinclined to keep premises in a healthy state. It would, indeed, be a legal monstrosity if any one could be compelled to pay rent as a premium for the acquirement of disease.

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A CORRESPONDENT calls attention, in the columns of a medical contemporary, to a case of itch in a stray cat. The "itch-mites" which cause the disease were found in great numbers in the animal. This fact appears to open up a new idea of itch-infection. It is perfectly possible that such an infected animal might infect a household pet, and that the disease might thus be communicated to children and others.

+ + +

AN instructive article—to which we may hereafter refer more fully—appears in the *British Medical Journal* of last week on "Short Sight amongst the boys of Greenwich Hospital School." The writer very clearly shows that insanitary and defective [school arrangements—badly-constructed desks, narrow seats, dark rooms, &c.—were the cause of the eye mischief—a serious condition in all, but especially so in boys who are supposed to earn their bread in after life through the exercise of sound faculties and senses.

+ + +

WE have been inundated with letters asking advice and information concerning the "quacks" who prey upon the public health and the public purse. To one and all of our correspondents we would say that the names and addresses of all persons legally qualified to practise medicine and surgery in Great Britain are given in the *Medical Register* and in the *Medical Directory*. Any person practising without a qualification commits an offence punishable by fine or imprisonment. We shall be glad, at any time, to inform any of our correspondents if the persons whom they suspect are quacks are on the *Medical Register* or not.

+ + +

*Punch* had a capital joke last week on the topic of physical education for girls. A mamma, explaining to a visitor the strength of her girls, remarks, that "there is not one of my daughters that couldn't knock down her own father." We wish most heartily that Mr. Du Maurier's ideal family was a common reality of our time, even with the risk of parental suppression before our eyes.

THE HEALTH ASPECTS OF HOLIDAY RESORTS.—We have pleasure in announcing that it is our intention to commence, at an early date, the publication of a series of interesting and instructive papers entitled, "Where to Go for the Holidays." In these papers, the health-aspects of the principal sea-side and other resorts will be described. It is hoped that the information thus afforded will be of service, not merely to invalids, but to the "Family Circle" in its choice of a holiday health-resort.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### COTTAGE HOSPITALS.

THAT there exists a great and crying need for the careful and systematic treatment of disease, whether it prove to be of infectious or non-infectious nature, is a kind of truism recognised by every intelligent member of the community. As a matter of fact, our ailments, whether confined to the individual, or spread abroad in the form of epidemics through a community, are to-day supervised and treated with a care and scientific skill that were almost unknown to the last generation. The care of the sick individual is, of course, a matter which is, as often as not, easily carried out at home, in the case of the middle-classes, at least. But in the case of the sick poor, this observation does not by any means hold good. Living in discomfort—it may be in the "one-roomed house," of which Mr. Bright spoke recently—often existing amidst insanitary conditions, and deprived of fresh-air, good food, or even light itself, the poor, as a matter of sanitary safety, to say nothing of charity and common kindness, demand that provision should be made for the treatment of the ailments to which they are liable. In the case of infectious disease, removal of the poor from their crowded dwellings, whence infection is spread broadcast, and where disinfection is unknown, becomes an absolute necessity. But the case of ordinary ailments likewise demands, in the case of the masses, the attention of their more affluent neighbours. A broken leg will not heal—quickly or satisfactorily—in poor surroundings, or without careful surgical treatment, and the ease, appliances, and nursing, which a hospital alone can afford. Similarly, in the cure of almost every common ailment, we must all be fully alive to the immense advantage which pure air, good food, and cheerful surroundings give to the patient, in any rank of life, in the struggle with disease, it may be with death itself.

The masses in cities and in our great towns are fully provided for in the matter of medical treatment, through the establishment of our infirmaries and hospitals. There, the poorest subject may obtain, freely, medical skill of the highest order. The most distinguished amongst our physicians and surgeons rank as members of hospital staffs, and dispense their knowledge ungrudgingly, and often at the cost of infinite labour, expense, time, and trouble. It is somewhat different in the country, and in the smaller towns. There, the masses are often insufficiently supplied with hospital accommodation, whilst in some cases no such accommodation is provided at all. When disease strikes them down, they are compelled to combat it in their homes, to the discomfort and danger of patients, of their own household, and of other families respectively. Medical men practising in rural districts and in the smaller towns know only too well what this lack of accommodation for the sick means and entails. Among other items, it means loss of time, exhaustion of savings through a too tedious recovery, and a consequent struggle with poverty and debt, the results of which may tend to cripple many a man for life.

It was due to the thought and philanthropy of Mr. Napper, of Cranleigh, that a system was inaugurated whereby the masses located in small towns might receive the advantages of hospital accommodation at their own doors. In many a manufacturing town or district unsupplied at present with hospital accommodation, any case



of accident, instead of being promptly treated by surgical skill on the spot, has to be conveyed miles in a railway to the nearest infirmary, or may have to be jolted in a cart to the hospital. Cases are often irreparably injured in this critical period; for relief in the future of such an emergency depends, as often as not, upon the speedy assistance of the present time. Hence, considerations connected with the treatment of the sick poor led Mr. Napper to suggest that small buildings might be converted into useful infirmaries for country districts. The medical and surgical staff of such infirmaries could be formed by local medical men. At their own doors there might be provided for the masses surgical and medical aid in any emergency. Accidents could be treated on the spot, and operations conducted successfully, amidst the pure air of the country, which, after a tedious journey to the city, might have but a poor chance of a favourable issue. It was in this way, and through the realisation of these ideas, that the "Cottage Hospital" system became an actual fact of our everyday life.

We have no intention in this article of trenching upon the ground which a contributor will, in future numbers of *HEALTH*, occupy very fully with details of the "Cottage Hospital," its construction and maintenance. We desire, for the present, merely to convey some plain facts which may serve as a basis for the preliminary operations connected with the establishment of these laudable institutions, now in course of erection over the country.

Firstly, regarding the proportion of beds to population which such a hospital should contain. It has been calculated that in rural districts about one bed to each 1,000 inhabitants (up to 6,000) will suffice for the ordinary wants of a neighbourhood. Good authorities set down the average cost of such a hospital at about £100 per bed, but so many circumstances may arise by way of increasing or decreasing this estimate, that each case, to be judged fairly, must be argued out on its own merits. If a cottage is converted into a hospital, for example, the cost above estimated is liable to variation. For furnishing a six-bedded hospital about £100 will be required at least, whilst an expenditure of £50 must be allowed for surgical instruments, splints, &c. Weekly, each patient would cost from 10s. to 15s., or more, according to the exigencies of his case. Thus, annually, an income of from £150 to £160 would be required as a minimum, but a certain sum might be deducted therefrom as subscribed by those patients who were able to afford such payment. This sum might vary from £20 to £30, or more.

It need not be added that in choosing either a site for a new cottage, or an existent cottage for conversion into a hospital, the first consideration, and one before which all others must give way, is that of *sanitary surroundings*. The cottage hospital, secondly, must be *easy of access*. Thirdly, if an existing cottage be utilised for a hospital, it must undergo a preliminary and thorough examination at the hands of a sanitary inspector. Walls will require cleaning and disinfecting; drains adjusting; pipes, sinks, and water supply will demand attention; and the conveniences, offices, &c., of the building will similarly require to be carefully supervised. Attention to these details at the foundation of the enterprise will be true economy, in view of future comfort, even if the cost be somewhat heavy. No drains may be required in some cases—as, for example, where the "dry earth" system prevails.

The *offices* of a cottage hospital of, say, six beds—and, indeed, of any size—include, according to Dr. G. Wilson, (1) a three-bedded male ward; (2) a two-bedded female ward; (3) a ward of one bed, which can be used as a room for operations; (4) a kitchen, scullery, and a small mortuary

or deadhouse, which should form an adjunct of the outside premises. These rooms should all be on the ground-floor. A good suggestion is that of having a verandah or shelter outside the cottage door, so that patients may, when convalescent, enjoy the air. Cheerful surroundings, flower-plots, &c., should not be neglected in the arrangement of the externals of the hospital.

Lastly, but by no means least, is the list of requirements—*let it be made an absolute rule that no cases of infectious disease be admitted to a cottage hospital*. For such diseases, a special hospital can be provided by statute, and the reception of such cases would be utterly fatal to the success of a cottage hospital for the common cases of accident and disease, as well as for the midwifery cases of the poor, which can be well treated in such institutions. The hospital should then be strictly reserved for ordinary medical (including obstetrical) and surgical cases.

Such are a few of the hints that may easily be elaborated at will in deciding upon the foundation of one of these truly useful institutions. Our future papers will enter fully into detail. Meanwhile, we may add that in no locality can there possibly exist any lack of charity or enterprise able and willing, by bazaars, concerts, &c., as well as by gifts of money and useful articles, to assist the good work. Large sums of money are raised for objects not to be mentioned in the same breath with a cottage hospital in respect of usefulness. But in respect of such a humane project, the wealthy and prosperous, as well as the masses of any district, will not surely require to be reminded of the old adage—that the truest charity is that which begins at home.

## FISH AS FOOD.

THE opening of the International Fisheries Exhibition affords a text to the physiologist and physician, whereon they may, firstly, congratulate the public on the prospects of an increased fish-supply; and, secondly, say something respecting the useful qualities of fish as an article of diet. It is not too much to say that fish, as a food, is greatly under-estimated, both as to its nutritive value, and as regards its relationship to other foods. The common idea that fish can only be used legitimately as a mere adjunct to a meal is grossly erroneous. To such an idea, and to the want of knowledge that, as a distinct food, fish by itself ranks very high in the estimation of the scientist, we may ascribe much of the difficulty we experience in procuring a plentiful fish-supply. If the public were aware of the wholesome dietetic nature of fish, they would long ago have insisted upon provision being made for its wider and cheaper sale in the metropolis and elsewhere. Once awakened to a knowledge of the fact that fish is an important and nutritious food, the people will of themselves demand and obtain facilities for its easy and cheap purchase. One of the results of the Fisheries Exhibition which every sanitarian must certainly hope to see, is assuredly that of giving us a more plentiful supply of the products of the deep.

It is curious to find in the records of the past, that ideas of a singular kind prevailed amongst the ancients in respect of fish as an article of food. There is no question of the extreme antiquity of the practice of fish-eating. It was very natural that the living things of the sea, which lay ready to man's hand, should form part of his daily food. But the Egyptians held peculiar opinions concerning the properties of fish. Their priests were, in particular, forbidden to eat fish; one reason which was assigned for the prohibition being, that this dietary was liable to cause



leprosy. The Mosaic laws relating to food, permitted fish to be eaten. "Whatsoever hath fins and scales in the waters, in the seas, and the rivers, them shall ye eat;" but in a succeeding passage reference is made to the want of fins and scales in aquatic beings as an indication of unfitness for food. As certain fishes (*e.g.*, eels and lampreys) have no scales, and either want the definite side fins of other fishes, or have none of these fins at all, it seems tolerably clear that the serpentine form of these and other fishes must have militated somewhat against their being regarded with favour as food. It is noteworthy, that to this day, in Scotland and elsewhere, eels, which are held in high estimation in most countries, are regarded as unfit for food, or at least are rejected by the population generally, from the list of edible fishes.

At the present time, whole nations are known to be fish-eaters, and to live principally, and in some cases exclusively, on fish. In the northern parts of both hemispheres we find fish-eating peoples. The Siberians grind dried fish into a powder which is used as bread, and even putrid fish is relished by some of the nomads who wander by the sea coasts. These people are, according to Dr. Pavy, "strong, healthy, and prolific. In no other class than in that of fishers do we see larger families, handsomer women, or more robust and active men." Regarding fish as an article of diet, it may be said that it exhibits a composition allied to that of meat at large. If we compare the analyses of meat and white fish, we find them to be contrasted as follows, according to Dr. Pavy:—

	Lean Beef.	Fat Beef.	White Fish.
Nitrogenous or flesh-forming matter ...	19·3	14·8	18·1
Fat.....	3·6	29·8	2·9
Minerals .....	5·1	4·4	1·0
Water .....	72·0	51·0	78·0
Total .....	100·0	100·0	100·0

These tables show us that in its composition white fish approaches most nearly to lean beef. It contains nearly as much "flesh-forming" matter as the meat, rather less fat, less mineral matter, and an increased percentage of water. The analysis, therefore, proves that fish is essentially a complete food, in that it contains a mixture of both nitrogenous and non-nitrogenous matter, the latter being represented by the fat, minerals, and water.

Great differences exist in the relative amounts of fat and "flesh-forming" matter found in fishes. Thus, in the eel there exists 13·8 per cent. of fat, and in the salmon the fat amounts to 5·5 per cent. Another analysis of eels, deprived of all non-eatable matter, sets the fat down at nearly 24 per cent.

Viewed physiologically, we see that fish may, as the principal article of dietary, form wholesome and nutritious food. The people who feed chiefly upon fish are amongst the hardiest and most active of our kind. Eaten along with other foods, in the absence of all other kinds of flesh, no doubt can exist that fish perfectly supplies the place of ordinary butcher meat. It is less stimulating than meat, and on this account, possibly, does not satisfy the appetite so thoroughly, and this especially in the case of those who have been accustomed to a full meat dietary. But there can be no question that fish is capable, to a very large extent, of replacing meat in a healthy dietary, and certainly, in the diet of invalids, may, judiciously used, be substituted for meat with great advantage. What is to be desired, therefore, as things are, is that white fish should be much more commonly used than at present. It might, with advantage to health, replace meat at least twice or thrice a week in the household. As a nutritious food, well cooked and tastefully prepared, fish should take

rank, not as a mere adjunct to meat, but as an occasional substitute for it.

Dr. Chambers tells us that "the less salt, and the colder, the water is whence our fish comes, the better adapted it is for the table. At Gibraltar it is not hard to distinguish the mullet caught on the Atlantic side of the rock from that which lives in the Mediterranean, a warmer and more concentrated sea, so much is the advantage on the side of the former. An Icelander, dining at our house, passed by, with polite scorn, a piece of prime Scarborough cod. Seeing my surprise, he explained that no one who has tasted it at Reikiavik could bear to eat cod in England, and that it was best in the polar circle, braced up by the melting icebergs."

In the order of easy digestion, and, therefore, from the invalid's point of view, the whiting seems to take precedence of all other fishes. It has, indeed, been named "the chicken of fishes," on this account. Then succeed boiled flounders, sole, haddock, and plaice. Cod requires more digestive power, and is regarded by some authorities as more trying to digestion than is usually believed. Turbot is less easily digested than other flat fish. Rich and oily fishes (salmon, eels, herrings, sprats, pilchards, and mullet) should not be given to invalids at all.

These hints regarding the dietetic use of fish may be serviceable to many who have not come to regard the finny tribe in the light of furnishing an important food for man. As a final contribution to our remarks, the following paragraph, culled from our contemporary the *Lancet*, may prove interesting in view of the economic and social value of fish as food:—"It is much to be regretted that a well-conceived idea of introducing a fish dinner once a week for paupers has failed at Canterbury. The ridiculous and unfounded prejudice which prevails among the poorer classes with respect to the nutrient value of fish has led to such an outcry among the inmates of the local workhouse that the guardians have felt compelled to abandon their sagacious project. As a matter of fact, fish would be an exceedingly advantageous addition to the diet of the working classes, as it is to that of all other orders of the people. A dinner a week of this article would be not only useful but admirable. We heartily wish the guardians had seen their way to persevere in the beneficial reform they contemplated, and upon which they had actually entered. If there had been any hope of support at Whitehall, they would probably have done so; but much as it is to be desired that fish should be popularised as an article of diet, and restored to its proper place as an integer of the common food of the people, it is to be feared that the day when light and reason will dawn upon the benighted department of Local Government is still far distant. In the articles of apprenticeship used in the City of London, in olden times, there used to be a clause providing that no master should give his apprentice salmon on more than two days a week. There is little danger of any need arising for such a covenant in the present day, but the feeling against fish which led to the introduction of this clause into the indentures of the City apprentices seems to remain."

## THE GERM THEORY OF DISEASE.

### V.

DR. CARPENTER, in a recent paper on "Disease Germs," speaks of Pasteur as "the greatest public benefactor of his time." The remark is highly apropos, and it is more than justified by the record of the services the eminent Frenchman has rendered to preventive medicine. In our last



paper, we saw Pasteur triumphant over the diseases of the silkworms. We are now to witness as important a victory in the domain of the diseases which affect higher life.

*Splenic fever* (or, as it is also named, "anthrax," "carbuncle," "milebrand," and "pustule maligne") is a disease well known to veterinary surgeons, as a singularly fatal malady affecting horses, cattle, and sheep. Occasionally, splenic fever has been propagated to man, as, indeed, other ailments of lower animals are known to be capable of affecting the human being. Popularly described, this disease might well merit the name a "plague of boils"; for one of its main features seems to consist in the development of the symptoms of rapid blood poisoning, with swelling (or carbuncle), and general disintegration or breaking up of the bodily tissues. A bad case of splenic fever will kill an animal in less than twenty-four hours. In cases where recovery takes place, the healing is slow and prolonged—often unsatisfactory and incomplete at best. That this disease is of serious commercial importance, may be gathered from the fact that between 1867 and 1870, no fewer than 56,000 deaths were reported amongst horses, cattle, and sheep in one Russian district—that of Novgorod. During the same period 528 human beings perished from splenic fever. In France the disease is but too well

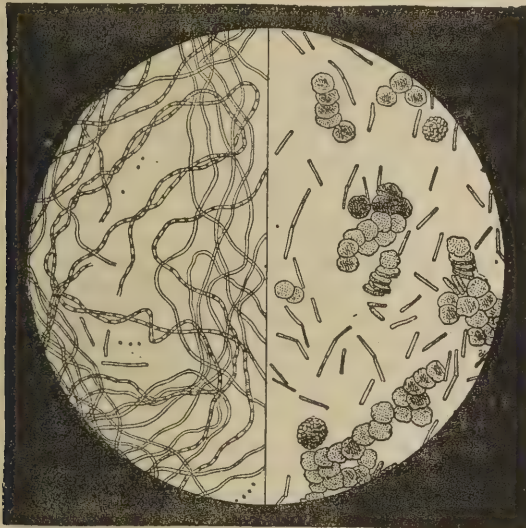


Fig. 1.—The *Bacillus* of splenic fever and its development.

known. As *pébrine* decimated the silkworm hosts, so splenic fever kills off cattle, sheep, and horses, and ruins many a once prosperous agriculturist. Dr. Carpenter tells us that between 1850 and 1860 a mild disease of this type was known in England, and he adds that he himself suffered from the "plague of boils," which was probably due to infection from an animal source. "Woolsorters' disease," an eminently fatal malady, known by occasional appearances at Bradford, is regarded as a species of splenic fever. The affection of the woolsorters appears to be caught from disease germs contained in the wool of infected animals.

Splenic fever is eminently infectious or contagious—whichever term we prefer. That it is communicated by the "contact" of healthy or susceptible animal bodies with diseased and living particles—with the nature of which we are perfectly familiar—does not admit of doubt. The history of splenic fever begins as far back as 1849. Pollender then showed that in the blood of infected animals a curious form of lower plant life was to be found. This

living organism was named the *Bacillus anthracis*—that is, the *Bacillus* of anthrax, or splenic fever. In 1850, MM. Rayer and Davaine, in France, also described the bacilli, which may be described each as a minute, transparent rod-like body, measuring from the 1-2,500th part of an inch in length, to the 1-1,250th of an inch; and in diameter about the 1-18,000th of an inch. These bacilli are represented on the right-hand half of Fig. 1. There, highly magnified, we see the round blood-corpuscles, the bacilli, floating about, as minute rods in the interspaces. The bacilli may be straight, or curved, or bent at an acute angle; and, when carefully examined, they can frequently be shown to be composed of several short segments or rods. These bacilli literally swarm in the blood of the affected animals; whilst, after death, they are found in immense numbers in the various organs and tissues.

The manner of their development has been carefully studied by Koch, of Berlin, Cohn, of Breslau, and others. The importance of knowing how these bacilli develop and reproduce their life, cannot be overestimated. Such knowledge of their nature is, in truth, the rational foundation of all successful investigation into the causes and prevention of splenic fever. For, that these bacilli are the cause of the malady, and that it is propagated through the sowing of the bacilli or their germs in healthy animals, are facts on which rests not even the shadow of a doubt.

In the blood of the infected animal the bacillus-rods may simply divide crosswise, so as to form new rods. The original rod in this case increases to "nearly double its length; then the central protoplasm (or living matter) splits in the middle, leaving a clear space; finally, the outer sheath becomes constricted and divides; and this process is repeated in each segment." But the more natural, and, so far as the intensity and propagation of disease is concerned, the more important method of development is that whereby *spores* (corresponding in a manner to the seeds of ordinary plants) are produced by the adult bacilli or rods. These spores are extremely difficult of destruction. They retain their vitality for long periods, and when sown within the body of an animal reproduce the disease with rapidity and fatal power. When the bacilli are watched throughout their whole life history, by studying their development continuously, each rod is seen sooner or later to grow into filaments or threads of great relative length, when compared with their former size. These threads (which are duly figured, largely magnified, on the left-hand side of our illustration) may form loops, or spirals, or may even become matted together. The next stage consists in the formation within the threads, of bright or refractile points. Around these points, the living matter (or protoplasm) appears to concentrate itself. Soon, inside the threads, there may be seen oval bodies, lying in rows, and appearing distinctly enough under high microscopic powers (see Fig.). The oval bodies are the *spores*, destined to produce under appropriate conditions—namely, within the blood of animals—new swarms of *bacilli*. The rods next fall to pieces, and, as a result, the "spores" are set free, whilst occasionally, the spores, after being liberated, may remain for a time imbedded together in a jelly-like mass. But, whatever be the manner in which the spores are produced, the fact, terrible enough in its significance to animal life, remains—namely, that each spore, minute as it is, is laden with the potent poison. A drop of fluid containing a spore or two introduced into the blood of a healthy animal, begins the work of producing the rods. For the spores grow quickly into bacilli, like the parent-rods from which they sprang; and these latter will, in due course, undergo the same development, liberating in time their countless generations of new spores.



The *conditions* under which the bacillus of splenic fever flourishes, feeds itself, grows, and reproduces its kind are—firstly, a nitrogenous fluid such as the blood. Koch, of Germany, and others have “cultivated” the bacillus in the “aqueous humour” of the ox’s eye, in meat juice, and like fluids capable of supplying the bacilli with their accustomed food. Secondly, the bacilli (like lower plants) at large appear to demand and require a supply of oxygen gas. In this respect they resemble animals. They demand, thirdly, a proper temperature or heat. At a temperature of 60° Centigrade the bacilli, or rods, are killed; and when dry they can live for a few weeks at most. But their spores, or germs, possess a vitality far exceeding in tenacity that of their parent rods. For we know that the spores, when moist, are not killed by exposure to the great heat of 100° Centigrade; and that when dry they can bear with impunity an even higher temperature. The spores further retain their vitality for many years under ordinary changes of temperature and climate; and it is to these specks, and not the rods themselves, that we must look for the full knowledge of the effects and method of propagation of the disease they cause.

(To be continued.)

CHILDREN should from babyhood be covered to the throat and wrists. The whole body should be protected by light flannel, not so thick as to heat and tire; there should be no stays, but the petticoats may be buttoned to a sufficiently warm bodice, and the ears should be shielded out of doors. Children are liable to ear-ache, often due to their useless hats. Why are hoods so seldom worn?—Mrs. Haweis, in “Art of Dress.”

THE DEVELOPMENT OF SENSES IN THE INFANT.—This topic has attracted the attention of many scientific men, and Darwin amongst others devoted time and care to the observation of the beginnings of intelligence in the young child. Dr. Genzer has recently made a special study of the subject with the following results. He says that the sense of touch is developed from the earliest period, and reflex actions are readily excited by the slightest stimulation of the nerves of touch—especially of the face, then of the hands, and soles of the feet. The feeling of pain is but slowly developed, and is only clearly exhibited after four or five weeks, before which time infants do not shed tears. True muscular sense is at least doubtful. Excitement of the sense of touch gives rise to unconscious reflex movements; the amount, therefore, rather than the quality of the sensation is observable. Closure of the nostrils occasions a reflex difficulty of breathing. Hunger and thirst are manifested in an increased general irritability, followed by reflex movements; these cease after the first week. Smell and taste are not distinguishable in infants. Genzer asserts, in opposition to Kussmaul, that the sense of hearing is perceptible in the first, or at most the second, day of life. New-born infants are so sensitive to light that they will turn the head to follow a mild light; whilst, if a strong glare be suddenly thrown upon the eye, squinting is induced, and even convulsive closure of the lids. After a few days, the child will follow the motion of various objects by movement of its head. Between the fourth and fifth weeks the convergence of the pupils of the eyes and the power of regulating their movements in vision are perceptible. A distinct perception of colour does not exist under four or five months; before then it is quantity rather than quality of light that is recognised. Excessively strong impressions only excite passive movements. New-born infants cannot separate the impressions on their organs of sense.

## Personal Health

“Be timely wise;  
With health all taste of pleasure flies.”—Gay.

### VII.—THE LORE OF THE HAIR.

BY DR. ANDREW WILSON.

THERE is no part of our bodily belongings which presents a more fertile field for the research of the curious than the social history, or what might be termed the “folk-lore,” of the hair. For example, the traffic in hair is immense, and the skin product represents, commercially, a very large sum of money, in respect of the annual transactions which take place over its worth. The buyers of hair have their stated markets, just as the dealers in any other commodity repair to their accustomed marts. The peasant maidens of the Lower Pyrenees and of Brittany, as well as of other provinces, travel every year to the fairs at which the hair buyers are in attendance. The quality of the hair as it grows on the head is duly estimated, its length is valued, the bargain is struck, and the locks and tresses speedily fall a prey to the scissors, whilst the young ladies retire often with a considerable *quid pro quo*, in the shape of money. It has been estimated that in Paris and London alone, more than one hundred thousand pounds weight of human hair is used every year in the manufacture of the “false hair,” pads, wigs, and other appliances, whereby art aids to conceal what are often erroneously named the “defects” of nature. If, as has been calculated, an ordinary individual will furnish to the hair market about  $\frac{3}{4}$  lb. weight of hair, it may be shown that the number of persons who sacrifice their capillary stock to the scissors of the dealer must be immense.

What is known in the trade as “Church hair” comes from convents. It is of fine quality, and commands high prices in Italy, Spain, and France. Different countries show their race-differences, in the preponderating colour and hue of the hair they send into market. The “golden hair” is usually a German product; “yellow hair” comes from Holland; and “black hair” from Spain, Italy, and France. In Britain, the red hair indicates the Danish element, seen specially in the North, and the black shows Celtic descent; the brown being possibly the Saxon hue. The prices paid for hair vary greatly with quality, length, and with colour especially. Fashion reigns supreme over the hair-market. If a craze for golden hair sets in, that particular shade will rise in value, just as when red hair becomes the prevailing and desirable tint, the latter hue will command the market. Golden hair, in the flush of the fashionable tide—indeed, this hue is always sought after—fetches from 8s. to 10s. per ounce. White hair is in demand more or less constantly, from the patent fact that the natural hue of the hair in age will require frequent imitation in the form of wigs, &c., and this colour has been known to sell for £1 per ounce. Some heads of hair are comparatively valueless for what is named “high-class work,” whilst others, at the opposite market extreme, will fetch far more than their weight in gold. From a French cranium, it is estimated about 5 oz. of black hair are obtained on an average; Italian heads yield about 6 oz.; and the Germans about 10 oz.

The hair-dealer, like the tea-taster and the wine-taster, acquires by long practice an educated touch, as well as a keen technical sense of hair-nature and value. Touch and smell appear to be mostly relied on by hair-dealers as means of detecting the value of their commodity. It is a well-known fact that certain nations possess each a special



odour of hair and skin, which is recognisable amongst all other odours by persons who have been associated with the individuals in question. The negro race is known to possess a very characteristic odour, which, as the story goes, a venerable sea-captain can recognise miles off when a slave-ship has crossed the wind. The Chinese hair is said to have a musky smell. Fraudulent treatment of the hair is, of course, a feature against which the hair-dealer has especially to guard; but "practice makes perfection" in this as in most other trades and employments, and the practised dealer is able to tell by the smell and feel whether or not the hair has been tampered with. Some dealers claim to be able to tell whether or not the hair has been taken from the living or from the dead, but this latter statement is one which certainly requires confirmation.

The chemical lore of the hair reveals many curious facts. Hair varies in its chemical composition; not certainly in the elements of which it consists, but in the relative proportions of these elements. Carbon, hydrogen, oxygen, nitrogen, and sulphur are found in hair. Black hair is said to give much oxygen, but little carbon or hydrogen, on analysis. White hair contains sulphate of alumina and phosphate of magnesia, whilst in the white hair of old age phosphate of lime (the chief mineral found in bone) occurs in addition. Red hair contains iron, a large quantity of sulphur, and a coloured oil. Fair hair at large, affords most sulphur and oxygen on analysis. The particular substance which is found in hair is *Keratin*, a material allied to horn in its nature. It is this substance which "smells" so powerfully when hair is burnt or when horn is singed.

The *strength* of hair, when scientifically tested, reveals some interesting facts. A single healthy hair supports a weight of about 4 ounces; but the power varies greatly with the texture, size, age, etc., of the hair. The old proverb that "union is strength" receives from the combined strength of the hairs a new illustration. One author calculates that the weight of an audience of 200 people might be supported by the hair of a single head in the audience, and have a certain amount of strength to spare. The combined strength of the hairs of say 130,000 people represents a breaking strain of 2 millions of tons.

The varied colours of hair appear to be referable to three chief pigments; yellow, red, and black. It is by the combinations of these colours that all the shades of hair are produced. Black hair has yellow and red as its basis, and it has been shown that the hair of the negro contains as large an amount of red colouring matter as does red hair.

An author makes a singular and most interesting reference to the advantages—matrimonially speaking—of particular shades of hair. It is found that the spinsters are mostly light-haired; whence it is inferred that dark-haired ladies have better matrimonial chances than their light-haired sisters. Statistics, we are told, show that for every two dark-haired women who are unmarried, there are three fair-haired ones. Our author wisely, perhaps, admits his inability to give a reason why the sterner sex should "flirt" with the blondes, and "marry" the brunettes. But Dr. Beddoe, an authority on social statistics, maintains that this "conjugal selection" is a reality; whilst even Mrs. Somerville remarks the facts just alluded to. Be this as it may, the suggestion which follows is, of course, highly interesting. Since, if it be true, that the light-haired ladies are left to the consolation of spinsterhood, the "fittest" will survive, according to the law of life, and their darker sisters will come to the front in the "struggle for existence." We have, however, by no means exhausted the curious lore of the hair.

## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. VII.—THE SKELETON (*continued*).

By A. J. MANSON.

CERTAIN of the *vertebræ*, or bones of the spine, exhibit peculiarities in respect of their position or function. To understand these peculiarities, we must, in the first place, briefly look at the general type or plan of a *vertebra*. It has been mentioned that all the *vertebræ* are constructed on a common plan. In this light, they are said to be "homologous"—a term meaning identical in fundamental structure or type. It might, indeed, be shown further, that all *vertebræ*, whether we view them in man or in lower animals, are built up on one and the same plan. On this idea, Professor Owen constructed his famous theory of the "vertebral theory of the skull," according to which the skull itself was regarded as consisting of modified *vertebræ* or spinal joints. In such a view of things, we should regard the whole skeleton, in fact, as being composed of a series of *vertebræ*, and we should speak of "spinal" *vertebræ*, "cranial" or skull-*vertebræ*, and so on. Professor Owen's view has not met with wide acceptance at the hands of naturalists and anatomists, chiefly because it has been found that the skull is developed in a different way from the *vertebræ*, or spine at large.

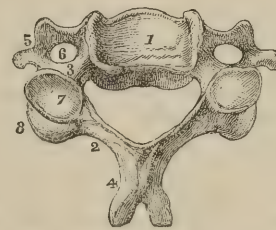


Fig. 1.—A neck-vertebra seen from above.

Each *vertebra* we saw in our last paper to possess, firstly, a solid piece, named its *centrum* or *body* (Fig. 1, <sup>1</sup>). From this "body" arise various bony parts, named "processes." From the back of the "body" of the *vertebra* arises an arch, called the *neural-arch*, or "nerve arch" (Fig. 1, <sup>2</sup>). It is through this arch that the *spinal cord*, or great main nervous trunk of the body, passes. If we could take a number of railway-bridges and place them together, we should form a continuous arch or tunnel. In this way, when the various "arches" of the different *vertebræ* are placed together, as they are in nature, they form a bony canal or tube (the *spinal canal*), within which the spinal cord lies and is protected. The backbone, as a whole, has thus a tube included within its structure, as well as a bony column, formed by the united "bodies" of the *vertebræ*. This tube, or "spinal canal," opens above into the inside of the skull, and thus allows the spinal cord and the brain to become continuous.

Projecting behind from the arch of each *vertebra*—and, in fact, forming the central point of the arch—we find a bony projection, named the "spine" (Fig. 1, <sup>4</sup>). When these "spines" are seen placed together in the natural position of the bones, we see (Fig. 3) a row of bony projections pointing backwards. It is these projections, or "spines," which we feel when we stroke the back



of a dog or cat, or which we feel in our own neck and back; and it is the presence of these processes also, which have given origin to the name "spine," applied to the backbone as a whole. From the sides of the arch of each vertebra project two processes, called *transverse processes* (Fig. 1, <sup>5</sup>). These serve for the attachment of the back-muscles, and in the case of the dorsal or back-vertebræ for the support of the ribs—in part, at least. The last series of processes borne by the vertebræ are called *articular processes* (Fig. 1, <sup>7, 8</sup>). As the name of these latter indicates, they serve to join or interlock each vertebra with its neighbours. There are two of these processes above and below in each vertebra.

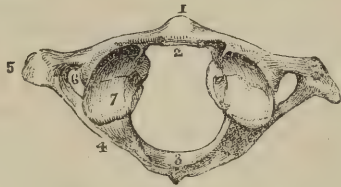


Fig. 2.—The atlas vertebra.

The various regions of the spine possess each certain characters which are to be distinguished in the vertebræ that compose them. Thus we recognise the neck vertebræ, by each of these seven bones possessing a hole (Figs. 1 and 2, <sup>6</sup>) in the transverse process, through which a blood-vessel passes upwards to the brain; and the spinous processes (Fig. 1, <sup>4</sup>) of all are cleft at the tip. The first, or *atlas vertebra* (Fig. 2), or that which supports the skull, is a mere ring of bone, destitute of a body or "centrum." The skull fits into the two shallow cups (one of which is marked 7), borne on the upper surface of the atlas. The *axis*, or second vertebra (Fig. 3), on which the head turns, possesses a thick knob of bone rising from its body, and named the *odontoid process*. It is on this bony peg that the head and first vertebra together turn. The nature of the peg itself is curious to trace. In early life it is part of the *atlas*, or first vertebra, but as life advances this "odontoid process" leaves the atlas, and becomes united to the second, or *axis*. The peg on which the head moves is thus nothing more or less than the missing body of the first vertebra, or "atlas."

Of the twelve *dorsal*, or "back-vertebræ," nothing need be said further than that they all possess one or two smooth hollows on each side of their "bodies." In these hollows the heads of ribs rest. Their "spines" are oblique and somewhat bayonet-shaped, and the ring arch is nearly round in shape. The transverse processes, lastly, bear a smooth hollow, in which parts of the ribs (called *tubercles*) repose. The vertebræ of the loins, or "lumbar" region, possess large "bodies" and somewhat triangular "rings" or "arches," whilst their spines (Fig. 3) are large and somewhat hatchet-shaped, or oblong. The "sacrum" (Fig. 3), wedged in its natural position between the haunch-bones, has been already described. It is triangular in shape, with its hinder surface arched, and its front surface hollowed or curved. The "tail" (or *coccyx*) (Fig. 3) has already been noted to consist of vertebræ in a rudimentary or modified condition.

In length the adult spine measures, on the average, about 28 inches. There is a tolerable uniformity maintained in the length of the spine in man. Even persons of short stature may possess spines nearly as long as those of their taller neighbours, the differences in height being due more to variations in limbs than in the length of the trunk. The human spine exhibits a most interesting series of curves. The chief curve is that of the back (Fig. 3).

There, the spine is curved backwards, the concavity, or hollow, looking forwards. In the neck and loins (Fig. 3), the hollow curve looks backwards, the spine being there convex in front. In the haunch region we see the sacrum and coccyx presenting a hollow (Fig. 3) to the front. The spine also exhibits a side (or lateral) curve, in addition to

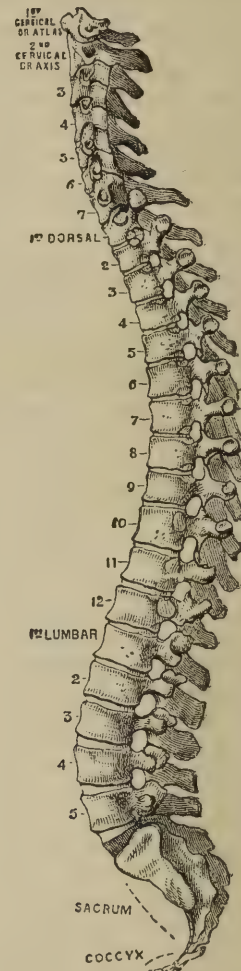


Fig. 3.—The spine viewed from the left side.

these front and back curves. This is convex to the right side opposite the third, fourth, and fifth back vertebræ; and just above and also below this curve, are two curves convex to the left side. It is believed that the chief side-curve of the spine—that of the upper back region—is due to the greater muscular strain of the right arm over that of the left. It is these curves which, in "curvature of the spine," are exaggerated so as to produce deformity of a more or less marked character.

**SANE DRESSING.**—We only need to recognise the real beauty of the natural line of the body, for modern stays to assume more normal proportions, combined with such support as is necessary; but meantime it is as well that the grave responsibility which health is to us, for the sake of future lives, should not be suppressed. Tight-lacing in the present generation does not induce a tendency to small waists in the next; but it may cause impaired sensibilities and morbid tendencies, not to be checked by any after-form of sane dressing.—Mrs. Haweis.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

NO. VII.—DISINFECTION AND DISINFECTANTS (*continued*).

It is necessary, perhaps, to mention at the present stage of our inquiries that we do not propose to treat in these papers of the disinfection of *sewage*. This latter topic lies within the province of the sanitary engineer, and not in that of the family circle or household. Papers will be given in *HEALTH* on the sewage question; that which concerns us here is the treatment of the house during and after infectious disease. With these words of explanation, we resume our inquiries into the disinfectants which are at the command of all, and in which we find ready and reliable means of arresting the spread of infectious disorders.

*Carbolic acid* forms a disinfectant with which the public are very familiar. It is perhaps the best known of all disinfectants, and is employed very generally in the treatment or prevention of infection. This acid is derived from tar products, and is readily recognised by its strong and peculiar odour. It is important to remark here that numerous fatal accidents have occurred through poisoning with carbolic acid. Somehow or other, in spite of its strong odour and acrid taste, this substance has acquired an undeniable notoriety where absolute carelessness has caused it to be taken in mistake for other liquids. This fact simply teaches us a very valuable lesson, which should be observed in all households. *We should see that every medicinal substance, whether harmless or poisonous in its nature, should be clearly and legibly labelled. We should also see that, in the case of poisons, a special label is attached to the bottle, and this label should bear not only the name and nature of the poison, and its use, BUT THE REMEDY AND THE DOSE THEREOF TO BE GIVEN, WHEN IT HAS BEEN SWALLOWED BY MISTAKE OR OTHERWISE.* Were this rule attended to, we should hear of fewer of those lamentable accidents which occur in our households, and even in hospitals, of mistaken doses and mistaken bottles. Again, the high importance of having the *name and dose of the remedy* plainly marked on all poisons would tend to save many lives. Few persons are so well acquainted with poisons and their remedies as to be able at once to administer the proper substance. Yet, it is a fact that within the compass of our houses, we find many remedies at hand for poisons. How few persons know, for example, that white of egg is an antidote to poisoning by corrosive sublimate; or that strong tea or coffee is the best thing to give in poisoning by opium in any form, such as laudanum or morphia, &c. Hence, the above advice should be followed by every parent and householder; and if druggists were to print the remedy for the common poisons on the labels they attach to the bottles containing them, an easy and valuable means of public instruction would thus be brought into play. Carbolic acid, kept in our houses for drain and closet disinfection, should be labelled "Poison"; its use should be stated also on the label; and the remedies for poisoning by this substance—namely, plenty of olive oil (to protect the stomach from the corroding action of the acid, with epsom salts or soda in solution)—should also be plainly inscribed on the label.

In a pure state, carbolic acid exists in the form of white

crystals. It is this form which is employed, dissolved in water or oil, for surgical lotions and as a dressing to wounds in the proportions of one to ten, twenty, or forty of oil or water. But the fluid used in disinfection may be colourless, or is a brown, tarry-smelling liquid of strong odour. The latter is, of course, the crude or unpurified carbolic acid. The acid is also made in the form of a powder, either as such, or under the name of "Macdougall's Powder." The latter is inferior in strength to the pure powder; but, as a rule, powders which are meant to be moistened with water, &c., are safer in ordinary hands than the fluid acid. Soaps are also made (Calvert's, Cleaver's, &c.) containing this substance. We shall refer, hereafter, to the use of these soaps in cases of fever.

Carbolic acid ranks high as an *antiseptic*—that is to say, they prevent the growth and development of the lower organisms or living forms which produce disease. The "antiseptic system" in surgery of Professor Lister and others is based on the application of this acid in the form of spray and dressing to wounds. Through such application, it is believed the "germs" of the air are killed or excluded from wounds, and the process of healing is thus quickened and rendered safer in every way. It should be remarked, however, that very recent opinions seem to point to the advisability of the properties of carbolic acid being thoroughly re-investigated. As an "antiseptic" there is no question of its action. It certainly arrests decay by preventing the growth of the organisms, which, like the "yeast plant" in fermentation, breed decay (or "fermentation" of another kind) by their life. But as a "germicide," or absolute killer of "germs," carbolic acid has yet to stand its trial. Medical opinion is at present on the alert regarding the properties of carbolic acid in this light. In proof of this we may refer to Dr. John Duncan's recent paper and experiments, wherein he makes out a good case for the reopening of the question whether or not carbolic acid kills germs. The following letter, taken from the *British Medical Journal*, is an indication of the same desire for reconsideration of the position of carbolic acid even as a disinfectant.

"For a long time," writes "M.D.," "I have felt doubts as to the real value of carbolic acid as a disinfectant; and, while thoroughly believing in its antiseptic properties when applied to wounds and poured upon liquids and solids which are liable to putrefaction, I have, on chemical grounds, and as a result of personal observation, placed greater reliance on permanganate of potash as a disinfectant in sick-rooms. Lately my attention has been particularly called to this subject, and it appears to me one of great importance; for not only is carbolic acid a most disagreeable agent to most people who have to spend hours in the sick-room, but, in the case of adults with delicate mucous membranes, and especially in children, it excites marked inflammation in the conjunctival (or eye membrane), Schneiderian membrane (or that of the nose), and throat, when its use has been again resorted to after a temporary substitution of the permanganate. It has sometimes appeared to excite a condition resembling salivation. I have also observed that nurses are less liberal in the use of the acid than of the permanganate. Again, there is every reason to believe that the permanganate yields oxygen to the air. It would be unreasonable to suppose that the acid 'carbolic' possessed such a property."

The experiments of Messrs. Crookes and Hope appear to show that *carbolic acid vapour* is useless as a disinfectant. In cattle-plague it was, however, said to be of service, but the animals and their byres were drenched with the solution, in addition to being fumigated with the vapour. Baxter's experiments tend to show that a



poisoned or infected fluid cannot be regarded as having been "disinfected" by carbolic acid, unless at least 2 per cent., by weight, of the pure acid has been added to it. The main outcome of the controversy with respect to carbolic acid rests upon this idea, namely, that being "antiseptic," there may exist a danger of its preserving, instead of destroying, the diseased matter, which may thereafter waken up into newness of life. We know that meat will keep for months fresh amid carbolic acid vapour, and one-fifth per cent. added to milk preserves that fluid. With flour-paste, which is exceedingly liable to "go to the bad," the case is the same. Thus, if used in *weak solutions*, carbolic acid seems to preserve, rather than to destroy, organic or living matter, and it is this fact which somewhat vitiates its value as a disinfectant.

Supposing, however, that we use it as a *strong* solution, we may employ carbolic acid in various ways. It should never be used under the strength of 5 per cent. in solution—that is, if added to water—for disinfection; 1 part of carbolic acid, at least, must go to 20 of water. In bulk, we add, for disinfection, 1 gallon of crude acid (strength about 80 per cent.) to 15 gallons of water. Such a solution may be used for scrubbing floors, steeping clothing, and disinfecting excretions. In the case of a suspected liquid, we must add *an equal bulk* of these carbolic solutions to the liquid. As a proof that disease matter may, after a time, as already remarked, regain its power after being disinfected with *weak* carbolic solutions, we may add that it has been proved by experiment that vaccine matter mixed with 1 to 50 solution of carbolic acid, *regained its power of producing vaccination-effects after ten days' exposure to the air.*

If used as *vapour*, we should place the acid solution (1 to 20 in water) in a flat iron pan, and apply heat until the solution becomes volatilised and goes off as vapour. We should bear in mind two facts about carbolic acid and its use in our houses. 1. The vapour is exceedingly annoying to the senses, and irritating to the lungs, eyes, &c., of both sick and hale persons. 2. *Carbolic acid should never be mixed with, or employed along with, either Condyl's Fluid or chlorine.* Inattention to this rule may render inert disinfecting processes, and thus spread disease. Lastly, a solution of carbolic acid, 1 per cent. strong, is probably more effective in removing bad odours from the hands and skin generally than Condyl's Fluid of much greater strength. A mixture, it may be added, of 1 part carbolic acid, 9 of vinegar, and a little camphor, has been used as a disinfectant in cabins on board ship.

(To be continued.)

INDIVIDUAL DUTY IN REGARD TO HEALTH.—Every health-reformer, in addition to acquiring knowledge of the laws of health, must see that his neighbour acquires knowledge of a similar character. In the matter of health, society must stand or fall as a whole. There can be no education of one set of its units, leaving another set in the ignorance which may, through its dire results, kill educated and uneducated alike. Thus a second aspect of our religious and moral duty in reference to health becomes clear. It is the question of the law put to the Nazarene, "Who is my neighbour?" only put with infinite force in the light of nineteenth century life and exigency. And the parable of the Samaritan with his kindly aid, can never be better illustrated to-day than when we ourselves, having found the true way of life, guide the footsteps of others into the paths that lead to where the shadows linger lovingly and long at the close of life's short day.

## Healthy Houses

"A happy home must be a healthy home."—Anon.

### OUR WATER SUPPLY.

By W. IVISON MACADAM, F.C.S., F.I.C., &c.

(Lecturer on Chemistry in the Edinburgh School of Medicine.)

#### PART III.

It is very difficult to state any special tests by means of which an unskilled person, and one without special appliances, can determine with accuracy the purity of a water. There is no substance which requires so much skill and practical knowledge for its analysis as water. To determine whether a water is good or bad, with that degree of certainty which should characterise such work, requires careful manipulation, pure chemicals, special apparatus, and an amount of knowledge only to be acquired by years of experience. At the same time, the following hints may be useful.

Should the water have any taste whatever, it should not be used for domestic supply. On the other hand, the absence of taste does not show the water to be good. In the same way, any odour would condemn the supply, but its absence does not commend the water. The odour may be rendered more decided by shaking the water in a clean bottle closed by a glass stopper—not by a cork; or, still better, by heating the water in a glass vessel with a narrow neck. Colour, I have already stated, is not objectionable where such is due to a small amount of peaty matter giving a slight brown colour to the water, but a decided colour of any shade should not be passed. In viewing water in large quantities as in docks or reservoirs, the colour is much intensified, and allowance must be made for the bulk. Where, however, a bottle or carafe is employed, only a very slight colour should be visible.

Where the supply is derived from open reservoirs, locks, or running streams, much information can frequently be derived from the vegetable and animal life these contain. In all good impounded waters, and in all the still places in pure rivers, and other running waters during summer, large numbers of the so-called "water-fleas"\* will be found busily jerking about in the water. There are two principal varieties—the first, *Daphnia pulex*, is somewhat round in shape, with a series of little feet on one side, by means of which it propels itself. It is found chiefly along the sides in shallow water, and especially delights in the green algae which grow there. The other common variety is *Cyclops quadricornis*, of a long-shape, with swimming feet. This little fellow is especially busy at some depth, but is found everywhere in pure impounded water. During the summer the Cyclops is a very striking object, for then it has two little bags of eggs attached to the posterior portion which appear somewhat like the long, flapping tails of the fashionable evening coat for gentlemen. To see these little animals one only requires to hold a tumbler of water to the light when they will be noticed like little specks jumping about. They are perfectly harmless, and are a very good indication of the purity of the water. The vegetable life in good waters is usually green in colour.

Sewage-impregnated waters during the early summer and autumn are full of life. In this case it is usually large masses of red worms, which become very apparent when a small quantity of the mud from the bottom of the stream is placed in a tumbler and allowed to settle. The vegetable,

\* To be duly illustrated in the course of future articles.



or what appears to be vegetable life, is usually grey in colour and hangs by long pendant masses from branches of trees, grass, &c., which dip into the water. In stagnant waters, and in rain-water barrels and cisterns, it is not uncommon to find the large larvæ of the ordinary gnat.

To discover whether a water contains vegetable or animal matter in a state of active putrescence, a few drops of Condyl's fluid may be placed in a tumbler full of the water, and if the purple colour disappears you may be suspicious.

To find if a water is hard, a very easy method is obtained in Dr. Clark's soap test. This consists in dissolving about  $\frac{1}{2}$  oz. of soap in a quart of alcohol, and then dropping this solution into a quantity of the water to be tested contained in a clean glass bottle. If the water readily gives a froth with the soap after they have been shaken together, and if it remains permanent for two or three minutes, then the water is soft; but if many drops of the soap solution are required before a permanent froth is obtained, then the water is hard. Kettles and boilers, where a hard water is used, become coated with a crust of lime; and the same result is noticed in hot-water pipes. This leads to much danger, as the crust gradually increases in thickness, and forming a layer on the bottom of the boiler, causes a loss of a heat, and consequent extra firing. The boiler-plates then become twisted, and if the scale cracks, and the water falls on to the over-heated plates, then there is a great rush of steam, and an explosion. The incrustation of hot-water pipes leads to much expense in renewal.

Where the water contains chalk in solution, a little clear lime-water will cause a milkiness; and washing soda, sparingly added, will also give a white colour, more or less deep, according to the amount of lime present.

**HOUSING THE POOR.**—Surgeon-Major Evatt has suggested the application of the customs of the army to the question of the housing of the poor. Why should not, he asks, power be given to the Postmaster-General to expend a portion of his annual surplus in erecting buildings in which to house the persons employed? For the accommodation provided, a deduction would be made from their salaries; and thus a just interest on the funds expended would be obtained. The same plan could, he thinks, be adopted in the housing of the police, and might also be employed by large companies and firms employing many hands, for the benefit of the latter. If, he says, once the persons employed were collected together in model dwellings, reading-rooms, club-rooms, perhaps even a cottage-hospital, would develop themselves, and a strong *esprit de corps* might be created.

**AN APPEAL FOR THE VENTILATION OF CHURCHES.**—An American contemporary, *The Christian Weekly*, publishes the following effective, though not strictly grammatical or scientific, appeal to the sexton for the better ventilation of churches.

O Sexton!

You shet 500 men women and children  
Speshily the latter, up in a tite place,  
Sum has bad breths, none of em aint too sweet,  
Sum is fevery, some is scroffus, sum has bad teeth,  
And sum haint none, and some aint over clean;  
And evry one of em brethes in and out and out and in  
Say 50 times a minnet, or 1 million and a half breths an hour:  
Now how long will a cherch full of are last at that rate?  
I ask you; say fifteen minnets, and then whats to be did?

I put it to your konshens

Are is the same to us as milk to babies,  
Or water is to fish, or pendulums to clox,  
Or roots and airbs unto an Injun doctor,  
Or little pills unto an omepath,  
Or Boize to gurls. Are is for us to brethe.  
What signifies who preaches ef I cant brethe?  
Whats Pol? What Pollus to sinners who are ded?  
Ded for want of breth?

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### A FEW WORDS ON BATHING.

By A PHYSICIAN.

Now that the bathing season approaches, it may not be amiss if we give a few timely hints regarding the practice in question. No form of recreation, wisely used, is more conducive to health than bathing. Conversely, no exercise is more injurious than bathing when injudiciously practised, and no exercise, it may be added, more readily contributes to ill-health, or to derangement of important functions, than unwise participation in the delights of river or sea.

A primary caution which should be strictly observed by all bathers, is that of first ascertaining, in any doubtful case, whether or not the constitution is adapted for the exercise. As a general rule, the healthy person, male or female, can bathe without fear of risk. Assuming that there is no weakness of chest—heart or lungs—and no tendency to deficient circulation, bathing may be safely indulged in, according to the rules to be hereafter laid down. Where a feeble circulation exists, or where lung or chest complaints have existed, then the exercise must be very guardedly begun; ceased on the slightest sign of indisposition; and not again persisted in, save after medical sanction has been obtained. Many an attack of pleurisy has been laid to the account of an injudicious bathe; and other chest complaints have been aggravated through persons bathing who should never have entered the water.

The common contra-indications to bathing, or the signs which should teach us that bathing is injurious, are readily appreciated. Where a chilly sensation is felt on leaving the water, even after having been a reasonable or proper time immersed, some cause must exist which demands investigation. It is a notable fact that any cause which lowers the system—fatigue, common ailments, want of tone, &c.—predisposes towards chill in bathing. Very often the bathe which, under ordinary circumstances, refreshes and invigorates, may thus act as a pretty safe guide to the state of the general health. Curious peculiarities are observable in individuals in reference to bathing. Thus certain persons suffer persistently from headache when they bathe in sea or river, whilst the daily bath at home may have no such effect. Again, bathing in the sea has been known to be followed by a lassitude and headache, whilst a dip in fresh water has no such result. These peculiarities should be borne in mind, for although their causes are obscure, they yet indicate pretty accurately that for health's sake the practice should be abstained from.

Sea bathing is regarded, naturally, as more bracing in its character than river bathing. The saltiness of the water and the sharp air of the sea together tend to invigorate us. As a rule, the bather can remain longer, without injurious effect, in salt than in fresh water. The sudden shock which results from a plunge into river or sea may be attended by bad effects in the case of persons who are subject to fits of any kind or to disturbance of the heart's action. Another highly important caution in bathing has reference to the care of the ears. Wherever any tendency to ear-ache or inflammation of the ear exists, bathing must be cautiously indulged in. A dive has been known to be followed by rupture of the "drum"



of the ear, owing to the sudden pressure to which this membrane has been subjected in passing from the air under the water. Again, persons who have suffered from discharges from the ears—common after scarlet fever, for example—and in whom the drum of the ear may be perforated or irritable, abscess of the brain may follow injury produced by the sudden dive or by plunging the head beneath the water. One of the most eminent of our English judges died from an injury of this description. The placing of cotton wool in the ears is to be recommended in bathing, as a necessary precaution in all who have tender ears, and as, in fact, a safe practice for all.

Attacks of cramp, to which even expert swimmers are liable, may arise from many causes. Where special nervous diseases do not exist, the so-called "cramp-spasms" are, as likely as not, due to some irregularity in digestion, or to some imprudence in bathing at wrong times and seasons. Bathing after a full meal may induce so-called "cramps," and it is to be feared that many a fatal case of drowning, attributed to some hidden nervous cause, has had a far simpler origin in digestive disturbances re-acting on the nervous system, and through this system propagated to the muscles.

The ordinary rules—drawn up by the Royal Humane Society—which should be observed by all bathers, whether in fresh or salt water, and whether swimmers or not, are simple and readily borne in mind.

1. Never bathe within two hours after a meal.
2. Never bathe when exhausted or in ill-health. The practice of plunging into the water after exercise is to be thoroughly condemned.
3. Never bathe when the body is cooling after perspiration.
4. A morning bathe may be taken by those who are strong and healthy before breakfast on an empty stomach.
5. The young, or those who are delicate, should bathe two or three hours after a meal, and in the forenoon, if possible.
6. The signs which forbid open-air bathing altogether are chilliness and shivering after entering the water, numbness of hands and feet, and deficient circulation generally.
7. When the body is warm, bathing may be indulged in, provided undressing is quickly accomplished, and the body is not chilled before entering the water.
8. On leaving the water, dry and dress *quickly*. Standing about undressed, after leaving the water, is, under any circumstances, injurious.
9. Rather cut short, than prolong, the bathe. Swimmers possess the power of remaining in the water for a considerable time, in consequence of their active movements. But even in their case injury is often wrought by unduly extending the exercise. The slightest feeling of chilliness should be taken as a sign to leave the water at once.
10. Lastly, we may repeat the wholesome advice that those who experience any disagreeable symptoms after bathing—such as palpitation, giddiness, &c.—should not again enter the water without consulting a doctor.

**WARMTH AND INFANTS.**—Dr. Arthur, in giving evidence at an inquest on the 2nd inst., at Brighton, on the body of a child who had been overlaid, remarked that it was a great mistake in parents to think that they were doing their children a service by taking them into bed with them, as the heat of the child's own body was always sufficient to keep it warm. He advocated the use of orange-boxes as beds for infants—a subject deserving of further study and ventilation.

## Findings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**THE PREVENTION OF CONSUMPTION.**—The phrase, chronic pulmonary phthisis, is now, in a certain sense, a generic term, for it includes distinct, if rarely dissociated, varieties of consumption of the lungs. But, however its intimate morbid anatomy may vary in particular instances, consumption of the lungs is still a well-recognised and terrible entity, of marked hereditary transmission, and attended by increasing cough, progressive signs of lung-destruction, and gradual wasting of the body. Using the term phthisis or consumption in this latter and well understood, though scientifically inexact, sense, our present knowledge of the morbid processes which constitute consumption, incomplete as it is, justifies us in asserting unequivocally that it is highly probable that our adult mortality from phthisis might be considerably reduced, if members of phthisical families, and persons of phthisical habit and tendency, could be induced to pursue a course of life intelligently designed to prevent in them the incidence of consumption. In wisely-chosen food, in suitable exercise, in well-adapted clothing, and in the respiration of pure air, a person of consumptive inclination may find four distinct and potent details of everyday life, which are usually well within his control, about which there can be little doubt or controversy, and which may be turned to efficient account in the prevention of phthisis. Precautions, if they are to be effectual, must not, as is now too often the case, be put off until signs of lung mischief become manifest. Then the evil can only be mitigated, not avoided. If consumption be apprehended, the daily diet should be rich both in nitrogenous flesh-forming and in fatty constituents. The especial nutritive value of milk in such a case is universally recognised. Next to well-arranged daily food, exercise in the open air is of the greatest importance in the prophylaxis of phthisis. On this point the late Dr. Parkes was emphatic. He laid down the rule that "the best climates for phthisis are perhaps not necessarily the equable ones, but those which permit the greatest number of hours to be passed out of the house." By well-adapted clothing, many of the chills, catarrhs, and pulmonary congestions which often lead up to consumption, might be prevented. The rules in this respect are well established. The feet should always be dry and warm; the covered parts of the body, excepting the head, should be clothed in suitable woollen fabrics; the underclothing should be kept of the same thickness all the year round, and variations of apparel to suit the changes of season being made only in the outer garments; and no constrictions or compressions should be allowed to hamper the respiratory play of the chest and abdomen, or to impede the circulation of blood through the lungs and heart. With regard to the respiration of pure air, it may be said generally that it is within doors that the breathing of vitiated air is most likely to become dangerous, and is such a powerful excitant of consumption. All apartments in which persons live should be thoroughly ventilated, by night as well as by day, so as to secure a constant movement of pure air in imperceptible currents.—*British Medical Journal.*

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**"MUSCLE versus BRAIN."**—This heading, which is a popular one, aptly illustrates the misconception that pre-



vails in result of ignorance of the laws of physiological development. It is a radical error to suppose that one part of the organism can be, or ever is, developed "at the expense" of some other. One part may be neglected while attention is exclusively directed to another part, but the fault does not consist in the over-care of the one, but in the neglect of the other. It is important to recognise this, because the phrase "muscle *v.* brain" would seem to imply that if we have muscle we cannot have brain. It is needless to remind those who understand the physiology of the higher animal life that no such alternative is presented. Each and every part of the body grows as it feeds. The point which is too commonly forgotten is that it feeds as it works, and in that proportion only. If any part is unexercised, it cannot possibly be nourished in such manner as to produce full growth and good health. In the training of youth it is especially necessary to bear this in mind. To produce good brain tissue there must be good brain exercise. The work done should not be sufficient to exhaust the organ, or the faculty of recuperation will be itself weakened and exhausted, and then the function of repair will lag behind the function of special activity, with the result of deterioration instead of progressive development. The work done should not, as a matter of fact, exceed such limits as regards quantity or quality as shall suffice to stimulate growth without exhausting. An overburdened or overworked brain cannot be healthy, nor can one that is underworked. Fatigue—we mean mental weariness—should not be incurred by the young; that is, during the period of development. The same rule applies to muscle cultivation. Full exercise without exhausting fatigue is the best, and, indeed, the only, stimulant of growth. Other things being equal, the best organism, the healthiest man, will be one in which both brain and muscle have been developed side by side by a process of educational training in which time and strength have been so utilised as to afford opportunity for growth in every direction in what we call *mind*—*i.e.*, brain function—as well as physical strength or muscle function. After the organism has passed through the stage of growth, and its several parts have been finally formulated, there may come a time when muscular activity will so drain the strength as to impoverish the brain, but this state of matters is not reached until long after the educational period, and in a well-trained organism it will never be reached at all.—*Lancet*.

♦ ♦ ♦

RE OPENING OF THE PARKES MUSEUM OF HYGIENE.—The following letter has been addressed to the editor of the *Times*:—"Sir,—I beg to inform you that the President of the Parkes Museum, his Royal Highness the Duke of Albany, has fixed Saturday, May 26, for the opening of the museum in its new premises, 74A, Margaret-street, W. The Parkes Museum stands quite alone in this country as a permanent exhibition of apparatus connected with hygiene and public health, and is, therefore, eminently entitled to public support, especially at the present time, when there is a growing need of facilities for obtaining a knowledge of the principles and practical application of sanitary science. It is gratifying to be able to state that her Majesty the Queen was among the first to signify her approval of the museum by contributing £50 to the fund necessary for its establishment. The central position of the new premises will make the museum more useful than it has hitherto been to professional men, owners of property, employers of labour, artisans and others, both men and women; and in order that the benefits of the museum may be extended to all classes, it will be open daily between the hours of ten and

seven, during which hours admission will be free from five to seven, and from two to nine on Mondays and Saturdays; while free admission to the library and reading-room may always be had on the recommendation of a member. Arrangements are being made for granting the use of the museum to professors of hygiene and teachers of sanitary science, for the purpose of demonstrating to their pupils the uses of sanitary appliances. Sanitary apparatus of every kind will not only be exhibited, but in many cases will be shown in action, and the drainage of the premises has been specially planned for the purpose of illustrating the best methods, and has been carried out in such a manner as to be available for teaching purposes. The premises are held on lease, and special donations are earnestly requested in order that the lease of the premises may be purchased. Subscriptions may be paid to the treasurer, Mr. Berkeley Hill, 55, Wimpole-street, W. Cheques should be crossed Union Bank. For further information application should be made to Mr. Mark H. Judge, Curator, at the Museum.—I am, &c., DOUGLAS GALTON, Chairman of Council. The Parkes Museum, 74a, Margaret-street, Regent-street, W., April 25."

♦ ♦ ♦

THE man who means to pursue throughout life his profession nobly, must begin with self-sacrifice that he may end with satisfaction.—*Lancet*.

♦ ♦ ♦

MORBID ACQUISITIVENESS.—Curious instances of what may be termed "morbid acquisitiveness" are sufficiently common. We now hear of an exhibition of cigar-ends collected during seven years, in the course of which the collector has walked nearly 12,000 miles and picked up 600,000 pieces of cigar averaging an inch and a half in length. It is difficult to determine whether this ought to be classed as a case of morbid acquisitiveness, or whether it is not rather an eccentricity. It is necessary to draw the line between idiosyncrasy and disease sharply, or we may be led into all sorts of errors and difficulties. Morbid acquisitiveness, in its true sense, is an irregular and disproportionate development of that propensity for picking up unconsidered trifles which is characteristic of some of the lower animals, such as the jackdaw and the magpie. The Darwinian hypothesis of development explains the presence of this propensity in man—who is a cumulative organism—and the theory of dissolution propounded by Herbert Spencer and applied by Hughlings Jackson explains the occurrence of this proclivity as a symptom—either in the form of "morbid acquisitiveness" or kleptomania—of degenerative disease, in which the superior edifice is, as it were, taken to pieces in detail, revealing in the process of its dissolution the faults and weakness of the integral developments of which it is composed.

♦ ♦ ♦

ADULTERATION OF PEPPER.—M. Charbonnier, in the *Répertoire de Pharmacie*, says that olive-husks are used on a very large scale to adulterate pepper. They are known as *poivrette*. Formerly they were used as fuel or manure; now they will sell at 25f. to 30f. the 100 kilos., apparently in consequence of their usefulness for the purpose indicated. When cleaned, dried, and ground, they very much resemble pepper in appearance, and the microscopic structure of the cells is so similar to that of the husk of pepper, that only a close comparison will indicate the difference.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Health in Schools* ("Health Primers"). (London: David Bogue.)

THIS is a useful little compendium of the sanitary rules which should be observed in dealing with the construction of schools, and with the dietary, hours, exercise, &c., of the pupils. Like all the primers in this series, the present manual is anonymous—a fact, the meaning of which is somewhat hard to discover, seeing that the editors' and authors' names are given collectively on the title-page. Apart from the anonymous nature of the volume, there is nothing to which objection can be taken in the book itself. Occasionally, there is exhibited a slight tendency to redundancy of expression; but the matter is couched, as a rule, in interesting language. The sections on "School Play" and "School Dietary" strike us as being among the best parts of the work; and an interesting and suggestive chapter on "The Duties of the School Doctor" should be perused by all medical men who have academies under their professional charge. The remarks on the necessity for the early detection of infectious disease and for absolute quarantine, are well worthy the study of doctors and laymen alike.

*What to Do in Cases of Poisoning.* By WILLIAM MURRELL, M.D., M.R.C.P., &c. (3rd edition.) (London: H. K. Lewis.) 1883.

WE are glad to see Dr. Murrell's handy and concise manual in a third edition. This latter fact is the best test of its popularity and worth. The arrangement of this book is highly scientific. Dr. Murrell begins by giving a series of very pregnant aphorisms concerning cases of poisoning; then passes to the diagnosis of such cases, giving under this head the symptoms; and next enumerating the chief poisons which may be suspected as having given rise to them. Popular or "patent medicines" to be regarded as poisons, are also noted. The "Antidote Bag" and its contents are also duly noted—how few practitioners possess one; and Dr. Murrell has an important remark on the fact that even some of our large hospitals are badly provided with appliances for the treatment of poisoning. The use of the stomach-pump is also described in plain and concise terms; and the bulk of the manual is occupied with full descriptions of each poison, its dose, the usual circumstances of administration, the purposes for which such poisons may be administered, and, finally, the various antidotes employed. Dr. Murrell's book should find an acceptable place on the shelves of every well-appointed book-case—lay or medical.

*The Way it is Done.* By MRS. WARREN. (London: Houlston & Sons.)

MRS. WARREN, under the guise of a tale "with a purpose," contrives in the volume before us to give a large amount of useful sanitary information, and to impart a large amount of solid advice in a very interesting fashion.

*Sanitary Houses, and How to Select One.* By F. A. BOND, M.B., &c. (London: Kegan Paul & Trench.)

DR. BOND's pamphlet deals with a large subject; but he contrives in the sixty odd pages of which it consists to impart a great deal of advice that is necessary for the householder who would keep himself, his family, and his

house in sanitary order. The elementary facts of sanitation are clearly stated by the author; and by those who have not the time to read, or the means to procure larger and more extensive works, this book will certainly be found very useful.

*Dwelling-houses: their Sanitary Construction and Arrangements.* By W. H. CORFIELD, M.A., M.D. (Oxon.), F.R.C.P., &c. (London: H. K. Lewis.)

ANYTHING regarding sanitary reform which proceeds from Dr. Corfield's pen is certain to be well worthy the attention of the public. This volume consists of the "Cantor Lectures," delivered by the author before the Society of Arts. It forms a very sound and trustworthy introduction to the study of domestic sanitation. Dr. Corfield divides his subjects into headings which, whilst familiar enough, yet present a highly satisfactory division of the subject-matter. He thus reviews the situation and construction of houses as a preliminary to the consideration of their ventilation, lighting, and water supply. The removal of refuse, sewerage and drains, closets, baths, pipes, and traps, are all treated concisely and in a highly popular and readily understood manner. The lectures were illustrated by specimens borrowed from the Parkes Museum of Hygiene. Now that the collection in question has been removed to Margaret-street, London, W., we can imagine a no more useful fashion of spending a spare hour now and then than by investigating the details of the museum with Dr. Corfield's manual as a guide-book in hand. The public are apt to regard the subject of traps and drains, for example, as entirely beyond their powers of appreciation. Such vital details in house-construction are often left to ignorant workmen, and we all know with what dire results to the public health. Such books as those by Dr. Corfield, Dr. Parkes, and others, do great and good public service, by showing that, in reality, any intelligent person, whilst undesirous of knowing the technology of plumbing and drainage, may nevertheless gain from such manuals a very fair amount of sanitary knowledge, and more than sufficient certainly to place him on the alert when disease threatens his household. In the list of truly educative sanitary works, we must therefore assign to Dr. Corfield's book a very high rank.

## Sanitary Appliances. Etc.

RAIMES' UNIVERSAL DEODORISER AND ANTISEPTIC APPARATUS.—We have made a trial of this apparatus, and are able to speak highly of its utility in the disinfection of closets and drains. It consists of a box, fitted with a valve-apparatus, which can either be attached by any plumber, so as to work automatically with the handle of the closet, or to act separately and independently of the closet-handle. The apparatus is filled with "Jeye's Perfect Purifier" as a disinfectant, but can be used with any other disinfecting liquid. The common idea of disinfection is that of employing chemical substances when fever or other infectious disease has arisen. But it should be borne in mind that drain and closet disinfection requires, even where the traps are secure, to be more or less continually practised. The keeping of a household free from noxious odours, liable to be blown back from many closets, is in itself an important feature of domestic economy. Many persons are now accustomed to carry out this process by placing disinfectants (such as "Sanitas powder," "Macdougall's powder," and the like) in the closet-pans. But in the apparatus of Messrs. Raimes we have at hand a contrivance which, once fixed in our closets, can hardly get out of order, and which, by merely pulling a handle or by the action of the closet handle itself, sends into the drain below a quantity of disinfecting material. Where illness invades the house, the utility of such an apparatus becomes increased tenfold. It is not intended that this apparatus should obviate the necessity for careful drainage; but it is a valuable adjunct to such drainage, and where drains are imperfect its use becomes a necessity.



## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply.

All Communications, &c., intended for the EDITOR—including Books for review, Sanitary Reports, Abstracts of Papers, specimens of Sanitary Appliances, &c.—to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

TO CONTRIBUTORS.—The Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

THE EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.]

#### PUFF AND DART.

SIR,—I notice you have a letter signed by a correspondent, "Puff and Dart," in which he states that with proper care and precaution an accident is exceedingly unlikely to occur in the game bearing his name. Of course, all games and amusements can be carried on without danger, if people will only "use proper care and precaution" and make themselves familiar with the details of the pursuit; but as this game is, I believe, generally indulged in by boys who can hardly be called "adepts," it seems to me unwise of any one to encourage a pastime of so dangerous a nature, especially when we have so lately seen recorded, upon the best authority, fatal accidents caused thereby.

PERCY SPALDING.

214, Piccadilly, W.

#### INFECTION.

SIR,—I recently had occasion to ask a medical friend, "Whether it is possible for infection from any disease (say erysipelas, for instance) to pass through an ordinary brick wall to the adjoining house or apartment?" He replied, "That though he had never met with any such instances, he had heard cases referred to which seem to invest it with such power."

As the question is of great importance, especially in connection with hospitals, &c., can any of your readers inform me whether they have ever met with any well-authenticated instances of such transmission of infection of any disease?—Yours, &c.,

J. D. K.

[Our Correspondent's letter raises an interesting point. Professor Roscoe's experiments have shown that gases can pass through brick and mortar walls. "A diffusive interchange goes on within the pores of the brick or mortar, so that our walls become, to a certain extent, an aid to ventilation." Pettenkofer has shown us that we can blow out a candle through a brick if we concentrate the breath on one point. There can be no doubt, therefore, that where gases can pass, the microscopic particles of disease may possibly pass also; and our reply to our Correspondent is, that, failing any independent infection, the disease to which he alludes may have passed, as he supposes, to his house from his neighbour's dwelling. There are bricks and bricks, of course; and bad bricks may be very porous. We shall be glad to hear from any of our readers of similar cases of infection.—Ed. "H."]

### FUNERAL REFORM.

SIR,—In these times of sanitary effort, is it not somewhat surprising that the present careless way in which we dispose of our dead should not attract the notice of the authorities? I believe there is an Act of Parliament that amply provides for "proper interment," but I venture to assert that (with perhaps one or two exceptions) the Act is well-nigh ignored under the present system in practice. It is less than a week since I was an eye-witness at one of the larger of the east-end cemeteries to the fact that the bodies of children are packed some twenty or more in a single grave, the coffins of those last buried being less than three feet from the surface. The same remarks apply to adults (except as regards numbers). Not long since I was present at a funeral at Reading Cemetery (Berks); at the side of the open grave five coffins were exposed to view, two of which were reeking with moisture exuding therefrom, and the stench emitted (no doubt for several hours) was fearful. The same state of things exists at Yarmouth and other large towns. As a rule the gravedigger in charge makes matters all square for a gratuity from the "undertaker." But this does not remedy the evil. The cemetery companies grow rich by overcrowding their ground, at the expense of the public health, at which "undertakers," of all others, are the least likely to complain, especially as it so happens (as it often does) they are shareholders in the cemetery companies. Surely some more responsible functionary than a gravedigger should be provided upon such occasions, either by the "burial boards" or the cemetery companies, in order to see that the last rites of our dead are decently and properly carried out, without risk to the living. Trusting you may deem the subject of sufficient importance to insert this protest in the next issue of your valuable journal, I am, Sir, yours faithfully,

W. D.

Camberwell, May 8, 1883.

[Our correspondent will see that we have already begun to direct attention to the important topic he mentions.—Ed. "H."]

### SPECTACLES AND HEADACHES.

SIR,—In his excellent article in HEALTH of the 27th ult., Dr. Maxwell Ross has briefly referred to the fact that some headaches had been cured by using a pair of spectacles. It is a pity he did not dilate further on the subject, as his suggestive remarks may be easily overlooked.

I have had a number of persons apply to me for spectacles, of all ages between eighteen and fifty, and of both sexes, who stated that they had only required spectacles since they had been subject to severe headaches, and considered that these headaches had injured their sight. On inquiry, I found that they were wrong in their reasoning, and that it was the want of spectacles which had caused the headaches, as after adopting a pair of spectacles exactly suited to their requirements, the headaches disappeared.—Yours truly,

JOHN BROWNING.

[I am very pleased to have Mr. Browning confirm what I said as to the influence of weak eyesight in causing headaches, and the cures effected in many instances by the use of a proper pair of spectacles. Had I not felt that my paper was intended rather to give hints as to the various causes which may light up a headache than to enter into a minute consideration of some of them, I should have dilated upon this point in the way Mr. Browning suggests. The subject is a most interesting one, and I felt greatly tempted to say much more about it. But it may suffice to mention here that the forms of weak-sightedness which have been described as causing sick headaches, are those known as hypermetropia (over-sightedness), and astigmatism (irregular-sightedness). For the former condition convex glasses are required. Astigmatism is, however, much more complex, and a combination of lenses may be necessary for its correction, which very often calls for all the scientific and manipulative skill of both oculist and optician. I trust Mr. Browning's letter will have the effect of preventing this important point being overlooked.

J. MAXWELL ROSS, M.B.]

### QUERIES AND ANSWERS.

#### GENERAL.

C. E.—No; not at present.

A. ELDER.—See a Manual of Chemistry; Roscoe's is a good book.

ALEXR. C.—Not so far as we know. Write again.

E. F. Y.—We do not know the system. There is an office, we believe, in London.

A. L.—We have an article in type on the subject.



## SANITARY.

A. N.—Of what do your family complain? Is it of smell? If so, there must be something deficient; for the ventilating shaft which you have had put in should obviate all tendency to any backward escape of sewer-gas. Where does the ventilating shaft or pipe open? Occasionally these pipes are made to open close to windows, which, of course, is a sanitary error. Send us a fuller description of your wants, and we will endeavour to meet them.

G. FORD.—See our papers on "Disinfectants."

## MEDICAL.

SUFFERER.—Have you never been advised to try tonic remedies, and to endeavour to correct constitutional and general weakness? We should decidedly recommend you to try and persevere in a full course of cod liver oil combined with iron. We have seen great good, in such cases as yours, result from this treatment. Try also sea air, and a snuff composed of 30 grains chlorate of potash and sugar half-an-ounce. Write again if not improved.

A. N.—The affection you mention is not uncommon at your age. "Condy's Fluid" is preferable to the lotion you are using. Use a weak solution of the Condy, and avoid all stimulants.

A SUFFERER FROM CHRONIC INDIGESTION.—There is no danger of blood poisoning. Try the effects of lighter dietary (*e.g.*, fish with vegetables), and of frequent changes of diet. A little "Lactopeptine" will also prove useful. Avoidance of stimulants, early hours, and attention to general health. Try "Æsculap Water."

GEORGE LEWIS.—Our advice is, mental employment, cheerful society, and see also reply to "Rickardo" in No. 5 HEALTH.

HAWTHORN.—Are you not overdoing your exercise a little? We are inclined to believe so from your own account of your habits. The walk to business of five miles should be stopped. Try the effect of less exertion. There seems no need to advise you further. The dryness and parching of the mouth proceed possibly from weak digestive power, and less exertion will probably cure this.

M. S.—Pears', certainly; it is pure and economical, and goes further than any other we know.

JUNUS.—Do not worry yourself over your troubles, for they certainly do not constitute a *disease*. See reply to "Rickardo" in No. 5 of HEALTH. With attention to general health, your condition will become perfectly normal.

TENDER FEET.—See a paragraph in HEALTH, page 69 (No. 5), on excessive sweating of hands and feet, and its remedy. Attend carefully to your stockings, frequently changing them, and washing feet night and morning in alum and water.

K.—We cannot do more than refer you to our papers on "Head-aches." You must be constitutionally nervous, to have suffered so long and persistently. Have you tried bromide of potass 15 grains, dissolved in water, at bedtime?

G. E. MARSHALL.—See reply to "Tender Feet"; and read the paragraph there referred to in HEALTH, page 69. Follow out what is there directed, and write again if unsuccessful.

J. TYTLER.—You do not say anything about the nature of the parasites? Who saw them under the microscope? Write again with fuller particulars.

TULIP.—We advise you to give up wine and stimulants of all kinds, if, as you say, you experience the sensations after taking such. Try a complete change of diet, and attend to your general health. If not better, write again with fuller description of your case.

C. SHEEHY.—Have you tried hot and cold water douches alternately played over the nerve? This often relieves pain and improves your complaint. Morphia may be injected into the nerve, but this can only be done by a medical man. Try what cod-liver oil—a tablespoonful daily, along with four grains carbonate of iron three times a day after food—will do. Your case is one of those in which the watchful care of a physician is required.

JUVENIS.—Have you tried the medicinal use of a little light claret along with your meals? You are evidently in fair health. But in such troubles as yours, a slight addition of alcohol to meals is often found to act beneficially. Write again, if unwilling to make the experiment.

C. HAMILTON.—To orris powder, as a dentifrice, there is no objection. We have not heard of any authenticated case where the teeth have been made tender by its use. Judge for yourself by your own symptoms.

RUPERT A. MORSE.—1. Tanner's or Roberts' works would suit you for medicine. Flint's "Practice of Medicine" is also an excellent book. 2. Cleland's "Animal Physiology" (Collins & Co., Glasgow) is an excellent manual, so also is Kirke's "Physiology"—the latter suitable for medical and other students. 3. See Corfield's "Laws of Health" (Longmans), or his "Health" (Kegan Paul).

ARCHIBALD SCOTT.—A very common affection. What is the cause? Treatment varies according to cause. Give us particulars

of your constitution, habits, &c. Meanwhile pay attention to general health, and try an ointment (which any chemist will compound), composed of spirit of camphor, one drachm; glycerine, two drachms; and zinc ointment, one ounce. If not improved write again.

ROMULUS.—The affection you name is rendered worse by constant standing, and by constipation. Wash the leg every day and rub dry. Elastic stockings ought certainly to do good, but they must be renewed when they become loose. In sitting or lying, place the feet on a pillow so as to raise the leg and favour the return of blood upwards along the veins.

TANTALUS.—See reply to "Archibald Scott," in this number. When chronic, as evidently the affection is in your case, good results often follow the use of an ointment composed of oil of cade two drachms, with glycerine of starch added to make up one ounce. We know of no grounds for believing the affection will leave you spontaneously.

JAMES.—Seek surgical advice. Your case requires the careful watching and attention of a medical man. We cannot advise you to advantage further than this.

JAMES REID.—The "spots before the eyes," commonly so called, are a well-known feature of liver complaints and indigestion. Attend to your general health. If the spots continue, seek the advice of a professional oculist. Is your health good otherwise?

H. R.—There are no popular books on the subject you mention. It is treated in every manual of surgery, but is such a difficult and technical topic that we are afraid you would not make much of it, were you to consult such works.

A. A. YOUNG.—For the bronchitis, try 10 drops of ipecacuanha wine every two hours to loosen the cough; and give 10 grains acetate of potash thrice a day. Inhaling steam, every two hours, for two or three minutes at a time, gives relief. The chest should have hot poultices, sprinkled with mustard, applied to it. If the depression is great, no ipecacuanha must be given. The following, in the latter case, will give relief: Carbonate of ammonia, 1 drachm; tincture of squills, 3 drachms; tincture of camphor compound,  $\frac{1}{2}$  oz.; infusion of senega, add to make up a mixture of 6 oz. Give one table-spoonful every four hours. The patient must be kept in a room where the air is moist, and of a temperature of 65° or 70°. The diet must be light and nourishing, and fluid in character—such as milk, beef-tea, arrowroot, with wine or brandy added when great weakness exists. Great caution must afterwards be exercised as to cold.

J. CRON.—You suffer from some nervous symptoms of somewhat obscure character, and it is difficult from your description to pronounce an opinion either regarding cause or cure. If you can (as you say) cure yourself temporarily by an effort of will, try the effect of persistent willing. See that your bedroom is well ventilated. If the symptoms continue, have the state of your chest (heart and lungs) examined by a physician.

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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JUNE 1, 1883.

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## Notes by the Way

“Health is the foundation of all our physical happiness.”—Herder.

WE begin in the present number our papers on “Health and Holidays.” These articles are intended to convey popular and reliable information regarding the characteristics of the chief health-resorts of Great Britain and the Continent. Such instruction is now being more eagerly sought after than ever. It is a hopeful sign that people are beginning to discover that holidaying, of all things, requires careful study, if they are to reap the full benefit of their yearly relaxation from toiling and moiling. To know “where to go” so as to obtain the full value of the time and money spent on recreation, is more than half the battle in the matter of holidays.

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THE “dress controversy” still continues. The letter of “A Woman,” published in the *Times*, shows that the criticism is not by any means destined to remain one-sided. The *Lancet* again comes to the front with a paragraph on “that monstrosity of fashion, ‘the divided skirt.’” The “Rational Dress Exhibition” in the Princes’ Hall, Piccadilly, London, draws crowds of visitors daily; and certainly, if the topics of what to wear and how to wear it are not thoroughly ventilated in a few weeks’ time, it cannot be said that the dress reformers, press, or public, have been idle or negligent.

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THE exhibition just alluded to will prove highly interesting to sexes, and to dress reformers and their opponents alike. Of all the objects in the exhibition, however, it cannot be said that wise reform is a striking feature. But the free play of experiment in dress is desirable; and without difference in ideas there could be no chance of healthy competition. One feature taught by the exhibits is the fact that singularly neat and elegant dresses of ordinary type are now made to be worn *minus* the corset. The “divided skirt” in all stages of its evolution and development may be studied amongst the exhibits, and a selection of most ingenious tricycling dresses, enabling the fair wearers to enjoy that exhilarating exercise, are alone worthy a careful study by all interested in the question of free movement. Amongst the exhibits will also be found examples of sensible boots and shoes,

and also some most chaste and elegant hats and bonnets, around which the ladies cluster in evident admiration.

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NOBODY, except irrational persons, expects that this, or any other exhibition of “rational dress,” will settle the question of the garments of the future. Those who are apt to sneer at the aims of the promoters of these displays forget that all reform, to be sure, must be gradual. If even a passing interest be evoked in the question of dress and health, a material good is accomplished. People who condemn corsets and tight-lacing—and nobody defends the latter nowadays—remember, with satisfaction, that it was a frank outspokenness which at first began the battle of health against disease.

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THE Parkes Museum had a most auspicious reopening. The Duke of Albany touched a thoroughly sympathetic and practical chord, when he remarked that his own family experience in the matter of preventible disease had “been singularly hard.” We trust to hear that the museum and its lectures will, together, constitute a means of health culture which will be largely taken advantage of by all interested in the spread of sanitary knowledge. In Mr. Judge, the energetic curator and secretary, the public are certain of finding an official ready at all times to assist them in gaining information respecting the various objects of interest with which the museum abounds.

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THE National Health Society’s Exhibition opens at Humphrey’s Hall, Albert-gate, London, on June 2, and bids fair to be a great success, if the excellent selection of classes of articles for exhibition, and the response which has been made to the committee’s invitations, may be taken as indicative of the interest shown in the society’s work. Seven classes of exhibits are included in the list. “Clothing” comes first on the list, and “Food Products” succeed; then we find “House Sanitation,” “Nursery and Sick-room Appliances,” “Industrial Dwellings and Cottage Hygiene,” “Heating, Lighting, and Cooking Apparatus,” and, lastly, an “Amateur Class,” for the exhibition of amateur work in health apparatus. The “dress question” should be fully ventilated in section first, but all the departments appear singularly interesting. After the exhibition has been fully arranged, we hope to notice its leading features in HEALTH.

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THE “Women’s Union Swimming Club,” of London (whereof Miss Paterson, 36, Great Queen-street, Lincoln’s-Inn-fields, W.C., is honorary treasurer), is doing good work in the metropolis. It is to be regretted that this club is the only one of its kind where women can receive professional instruction in swimming at a nominal cost. On Wednesday evenings, the Club meets at the Whitfield-street baths, and here, for the small charge of twopence, the means of acquiring a knowledge of a most healthy, not to say useful, art is afforded. The need for additional accommodation is a crying one, and the demand for a river bath is perfectly feasible and just. It is to be hoped that in all our towns, such a movement as that above mentioned, will, ere long, become general.

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ANOTHER case of ignorance—or, it might be added, wilful negligence and prejudice—has resulted in the death of a lady under peculiarly sad circumstances. The case is one of the oft-repeated instance of the utter carelessness with which cases of infectious disease are treated by the friends of the patient. A lady in Sunderland, residing alone with



a housekeeper, has died from small-pox of a malignant type, the said disease having been caught from the housekeeper's child, which was knowingly smuggled into the house whilst suffering from the ailment in question. The child-patient was kept in the house unknown to the lady; no medical attendant was called in to the child. When we add that the child's mother was in the habit of shaking the bed and bedding charged with infection derived from the patient, in the back yard, we have said enough to show that there exist certain persons whose acts, in the matter of spreading disease, deserve to be brought under the ban of some criminal proceedings for their due correction and instruction in the common laws of neighbourly duty.

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THE Italian Government appears to be taking a highly practical interest in the health of its people. No patent medicines are admitted into Italy unless it can be shown that they contain nothing likely to be injurious to health. Such a law must compel a declaration of the contents of such preparations, and this practice will certainly not accord with trade views on the subject. The law will act in many cases with admirable effect on the Italian constitution; but there are certain exceptions in which its operation may prove inconvenient.

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Now that the hot weather appears to be upon us, the householder should look to his water supply. The advice given by Mr. Macadam, in his paper on "Water Supply" in our present number, regarding the cleansing of house-cisterns, ought to be put in force by all who desire to escape some common summer digestive ailments connected with an impure water supply. Disinfectants should be employed in all drains and closets to ensure sweetness of atmosphere. It is an easy matter to keep a tin of some powder (such as "Sanitas," or other disinfecting powder), or some of the fluid disinfectants described in our "Family Circle" papers, in bath-rooms and closets, and to see that these common sources of air contamination are kept in a sanitary state.

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PEOPLE are now on the hunt for seaside and holiday quarters. It only rarely occurs, however, to paterfamilias, or to materfamilias either, that, in addition to the "nice prospect," "proper number of rooms," and "facilities for sea-bathing," etc.—items which are all eagerly investigated in taking a holiday residence—it is of equal importance to ensure the sanitary safety of their temporary holiday home. A slight outlay incurred in a drain-inspection may save the cost of a long illness, or a life, that no sacrifice of material things can replace. The landlord of the (distant) future will provide willingly, or be compelled to provide us with, a certificate of the sanitary excellence of the houses he lets. Meanwhile, we should, at least, in the matter of the sanitation of lodgings and houses for the holidays, be wise enough to take the law into our own hands.

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Nature points out that there are not a few artists who require instruction in the elements of physical science. Our contemporary gives an instance of a rainbow which had the violet hue in the middle, the artist being evidently unaware of the fact that all primary "bows" are alike, and that they are not the variable things poetry and art conceive them to be. The order of colours is from red, through orange, yellow, green, blue, and indigo, to violet.

## Original Essays

• "Life is not to live, but to be well."—*Martial*.

### BODY AND MIND.

THE very venerable topic of the relations of mind and body is perpetually being discussed anew, and under the light of the fresh facts which modern science is collecting and arranging in systematic order. The facts to which we allude are mostly collected from the byeways of science, and are, as often as not, brought to the surface of human life, during cases of illness in which some unusual stimulation is applied either to mind or to body, or possibly to both. An interesting paper on the influence of the mind over the bodily organisation was read recently by Mr. J. Brindley James at a meeting of a medical society. From an excellent summary of his remarks we are able to present an interesting study in mind-science to our readers. Recent observations, said the author, had proved the action of this recognised but mysterious influence to possess a far wider scope than was generally supposed. Modern investigation alone had demonstrated that in certain persons, mind, sensation, and volition could be thoroughly controlled by the suggestive ideas of another individual (as in the "mesmeric" state), although the marked effect exercised by mental emotions, in either stimulating or depressing bodily functions, had long been universally admitted. In illustration of this theory Mr. James referred to the fact of the peculiar condition of the brain-functions which might be created at pleasure in any twenty persons selected at random, and directed to gaze for ten minutes consecutively at any given object. Such persons (especially if young subjects) would be found to act with most complete passiveness in accordance with ideas suggested by another person not thus influenced; the fatigued condition into which their mental faculties had been thus brought causing them to lose power over ideas rendered prominent at this stage. Mesmer, the founder of the so-called system which bears his name, used to throw his patients into a kind of passive trance by causing them to look steadily at a clear crystal ball. In such cases mistiness of vision was induced, while gazing at the object, and this was succeeded by lassitude and drowsiness in some subjects, simple stiffness of the eyelids in others, deep-drawn sighs, hurried respiration, heaving of the chest, &c., in many instances. Such subjects, told in a firm, confident tone that they could not open their eyes, would be found really unable to do so, especially if the operator drew attention to those organs by a touch, or even by the simple gesture of pointing at them; but, on his simple injunction to open their eyes, they would seem to regain this faculty at once. Persons, under these conditions, might be compelled to, or debarred from, the execution of any conceivable motion, even against their will—such as bending a limb, rising from or sitting down on a chair, &c. Among instances which Mr. James had himself witnessed, was one in which a person had been debarred from approaching one object, and irresistibly impelled towards another, unable to cross a chalked line or an imaginary boundary, compelled to walk, dance, or run, as desired or ordered, from no volition of his own; while, in another case, the arm had remained suspended or fixed in the act of drinking, &c.

The most singular of these phenomena, vouched for by professional testimony of unquestionable authenticity, said Mr. James, was that of persons in this state who had been made to repeat, with perfect pronunciation and accent, words pronounced to them in languages which



must have been utterly impracticable to them at other times—such as Arabic, Slavonic, &c. This reminds us of well-known cases where bodily illness has acted as a mental stimulant of extraordinary kind. There is one case on record in which an ignorant Breton servant girl, in the delirium of typhoid fever, spoke excellent Chaldee. Years previously her master, a *curé*, had read aloud in that language, and her brain, abnormally stimulated, reproduced the long-forgotten words, of the meaning or nature of which she, of course, knew nothing. The lower animals were also susceptible of forcible physical impression by what might strongly attract their attention. In support of this, Mr. James alluded to the well-known power of fascination exercised by the serpent over other animals, and on birds, who, at the very sight of the long glittering body, and especially the fixed glaring eyes of their enemy, fell an easy prey to him. He also alluded to the strange uncontrollable desire felt by those who gazed from a lofty precipice, to hurl themselves into the abyss beneath, although conscious such an action would entail inevitable destruction. He further pointed out that, in such conditions as those described, all the sensations might be increased, perverted, or destroyed through the medium of suggestive ideas communicated to the mind. It was known that by concentration of attention on any part of the skin, the sensation of heat or cold, pain or numbness, &c., might be induced. So also, the power of sight might be impaired, rendered painful, or even lost, while special images might be presented to the vision, or objects made to resemble others to which they did not bear the most remote analogy. The sense of smell might be also perverted, any kind of scent being ascribed by the imagination to inodorous objects; a rose, in the hands of the victim of such a delusion, smelling to him like an onion, plain water like eau de Cologne.

The faculty of hearing is also known to be similarly affected. Many a fretful invalid, to whom the grinding of street organs was intolerable, would persist, perhaps, in hearing organs, as he supposed, in the most secluded country places. Lastly, the sense of taste might have its similar perversions; plain water might, by such a person, be credited with the sweetness of honey, the bitterness of wormwood, &c.

Hypochondriacal patients, who persistently concentrated attention on a perfectly sound organ which they believed diseased, until, in course of time, it truly became so, also fell under the category of abnormally stimulated persons. These various delusions of the senses, Mr. James remarked, might, doubtless, prove of no little assistance in tracing out the origin of insanity in many cases. As the senses might be distorted, so, in like manner, might the mental faculties be influenced, memory impaired or lost, powers of judgment, discrimination and comparison disabled, and the process of reasoning literally reduced to a *reductio ad absurdum*; the imaginative faculty nevertheless continuing very vivid, the individual readily assuming the voice and demeanour, &c., of persons in widely different and various ranks of life. We readily see the importance of the inquiry thrown open by these phenomena to earnest scientific investigators, and we also become aware of the benefit they might eventually confer alike on the science of medicine and on humanity at large, should it finally be found possible to sift the wheat of science from the tares of superstition. By disentangling the observations of Mesmer from the web of mysticism, wound round it by superstition on the one hand and by quackery on the other, we may be enabled to unravel the Gordian knot of the treatment of nervous diseases.

## BABY-STARVING.

UNDER the above title, the medical journals have more than once ventilated the abuses of feeding which are unconsciously practised, by those who ought to know better, on young infants. The importance of the topic to every mother, to nurses, and to all concerned in the care of youth, cannot be over estimated. A controversy in recent times has chiefly waged around the question whether or not certain "artificial foods" are adapted for infants. As long ago as 1872, the *Lancet* opened up a correspondence on the employment of condensed milk as a food for infants brought up by hand. It was held by some medical men that while infants take condensed milk readily, and whilst they appear to thrive upon it, their plumpness is at the same time delusive, and consists chiefly of fat. Hence, when attacked by disease, the children are found to possess no stamina, and are not able to withstand disease as are infants which have been fed on their mothers' milk, or on other and approved substances.

The controversy respecting condensed milk was revived a short time since in the columns of the *British Medical Journal*. From the collective experience of the medical profession on this topic, we may learn many important lessons. Dr. Lees remarks as follows on the use of condensed milk, in reply to opinions which denied its utility or safety as an infant food. "Condensed milk is, in my experience, of great value, when properly used, in the treatment of the dyspepsia of infants. But without entering into a controversy as to its merits or demerits, I wish to show the fallacy of single observations by narrating a case which occurred lately. Two tiny infants, twins, were brought to my out-patient room at the Hospital for Sick Children when they were three weeks old. Each of them weighed  $3\frac{3}{4}$  lb. More unpromising subjects for artificial feeding could not well be imagined. One of them was put to the breast, the other fed on Swiss milk. The former died, the latter survived. I know that it lived for ten months, and I have not heard of it since. If an observer has but a single fact to record, let him record it if he will. But if so, it must be with minute accuracy and attention to details, or the accumulation of observations becomes only the multiplying of errors. And, above all, let him beware of building a theory on the basis of his single fact." Dr. Adams writes:—"Allow me to say a few words in reply to Mr. E. M. Owen's communication upon the above subject, in which he attributes eye-disease to the use of condensed milk. The assertion is as startling as, to my mind, unfounded. My own children owe their lives to the preparation, and have escaped the deadly peril of eye affections or such-like terrors, and are, indeed, in a well-nourished condition. Both in infirmity and private practice, I have found condensed milk exceed one's expectations, and save life where cow's milk has been worse than starvation-diet. If Mr. Owen attributes cataract in children to excess of sugar, then most infants should suffer from it from their earliest butter-and-sugar days. Excess of sugar probably tends to flatulence; but this evil has been corrected lately by the Condensed Milk Company. After the third month, most infants require small quantities of semi-solid nourishment besides milk. Where properly managed, I never saw an infant waste upon condensed milk, but *au contraire*; and my experience amongst babes has been considerable. My confidence, therefore, cannot be shaken by any theory where the practice is satisfactory, and to my mind it appears most unfair to condemn any article of diet without tangible reasons for so doing." Dr. Hirst



lastly says:—"I must beg to differ from your correspondent, Dr. McLennan, in your journal of February 3, with regard to the value of condensed milk in the feeding of infants. For many years past I have seen it used frequently with the best results, when ordinary cow's milk has been persistently rejected by the little patient's stomach. The results have been so good, that I almost always recommend my patients to commence with it. The Anglo-Swiss brand I order, as it keeps well, and does not seem to vary in composition. Of course, there are children who tax your utmost ingenuity to find something that will stay down. The ordinary plan of recommending milk from one cow generally answers; but I have known two cows side by side, one of which gave thirty quarts of milk a day, ten morning, noon, and night; the other gave eight quarts, four morning and evening. The eight quarts of the one contained over one-third more butter than the thirty quarts of the other. Woe betide the child which got the thinner milk with equal parts or one-third of water added to it, as generally recommended for a commencement for infants. The medical attendant should ascertain the quality of the milk before he speaks as to the quantity of water to be added. In Ceylon, where English mothers are very rarely able to suckle their own offspring, on account of the nature of the climate, we had sometimes great difficulty in rearing the children. Goat's milk we frequently found answer best. In some cases, nothing but ordinary bread, dried in the oven, and then boiled and beaten with water to the consistence of milk, and sweetened, would stay on the stomach. In all cases, the old-fashioned cooked flour had to be kept in readiness—that is, flour which had been tied in a cloth and boiled three or four hours, then dried, and grated into the food when necessary. Mellin's, Liebig's, Neave's, and other foods I have seen tried with good effects; but I have obtained the most uniformly good results from the natural foods."

Our contemporary gave a valuable summary and deliverance on this question in the following terms, which should be perused with care by all who are interested, directly or indirectly, in the upbringing of infants. A first caution is very properly devoted to the necessity for extra care in the summer feeding. "During the summer months, the artificial feeding of infants requires a higher degree of attention and skill on the part of the nurse than perhaps in any other period of the year. During the summer months children suffer more particularly from diarrhoea, which too often depends on improper feeding and adulterated food, so that a few remarks on the subject of infant-feeding and condensed milk will not be inappropriate at the present time."

The remaining conclusions regarding the feeding of infants are given as follows:—The mother's milk is the natural food for infants. Every other kind of aliment must be regarded as artificial, even that taken from the breast by mechanical means. The results of artificial feeding are usually much inferior to those derived from suckling; they may be improved, but can never equal the natural nourishment of the infant. During artificial feeding, the perfect cleanliness of all cups, bottles, etc., employed must be ensured. The value of any artificial food will depend much more on its easiness of digestion, than on the quantity of nutritive matter which it contains. In choosing as a substitute animal milk, we should select that which, in composition and in the proportion of nutriment it contains, approaches most nearly to human milk. The *casein* (or nitrogenous and flesh-forming part of milk) contained in different kinds of animal milk varies in its degree of digestibility, and the casein of human milk

is more readily digested than that contained in cow's milk. Condensed milk is not to be preferred to fresh cow's milk, when the latter can be procured from healthy animals fed on dry fodder. The addition of sugar to the milk appears to excite fermentation, and to increase the danger of infantile diarrhoea. *Every kind of farinaceous or starchy food should be avoided during the first two or three months, because at that age the salivary glands of the mouth digest starch incompletely, whilst those of the sweetbread cannot digest it at all.* In connection with this information, it should be borne in mind that the natural function of the saliva or water of the mouth is that of converting the starch contained in our food into a sugar. The majority of infants' foods contain starch which has not yet been transformed, and hence it is unfit for their digestion. Liebig's soup is more easily digested by the infant than sweetened farinaceous liquids, because the fermentive element which it contains may assist the transformation of starch into sugar after ingestion of the food. Under an artificial system of feeding, infants take in a much larger quantity of nutriment than they do while suckling.

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SERVANTS OF THE SICK POOR.—I will now describe one or two typical examples of the work done by nurses of the Metropolitan and National Nursing Association in infectious cases. One day a clergyman sent a message to the Central Home that scarlet fever had broken out in a house in some mews in his parish, that none of the neighbours would go near the house for fear of infection, and that the mother seemed absolutely ignorant of what it was best to do for her sick children. I went with a district nurse, and found the case to be one of the saddest I had seen for a long time. Three children had been attacked by fever about the same time. One was lying on the window-sill (where she had asked to be carried) dead; the second child was dying; and there seemed only a faint hope of saving the third and youngest, as she lay in bed with the dying child. The young mother had never seen death before, and was afraid to touch her dead child, or even enter the room where it was. She had carefully pasted up the window and every crevice by which she thought air could enter, and had put the bed behind the door in such a position that by no possible chance could the children obtain fresh air. The floor was covered with strips of carpeting, there were thick curtains to the window, and the room was filled up with boxes containing the clothes of the family. We first performed the last offices for the dead child; and then carefully sponged the two sick children between blankets, put on clean linen, and made the bed without moving them out of it, took precautions against bed-sores, cleansed the mouth and ulcerated tonsils, and combed and arranged the hair, which was in a dreadfully neglected condition. We took down the curtains, took up the pieces of carpet, and folded them ready for disinfection, prepared a disinfecting solution to wipe over the floor and for all utensils, &c., used by the sick children, showed the mother how to disinfect everything, and arranged for the ventilation of the room without exposing the children to draught. As we had other cases of scarlet-fever on our list, we were able to arrange that a nurse should come three times a day to do what was necessary, and that a nurse should sit up every night. We taught the mother what to do during the day when we were not there, and the doctor in charge of the case afterwards remarked: "If these nurses had been called in sooner, they would probably have saved both children instead of only one."—*Florence Craven, in the Nineteenth Century.*



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### NO. VIII.—THE HAIR AND ITS TREATMENT— (continued).

BY DR. ANDREW WILSON.

THE number of hairs which exist in each square inch of head-surface, varies, of course, with the nature and quality of the hair itself. It would appear that the number of the hairs bears a special relation to their colour. Coarser and darker coloured hair grows thinner than the light-coloured varieties. Estimates have been formed of the number of hairs per square inch which the head bears. In black hair, nearly 600 hairs exist to the square inch; flaxen hair is said to number nearly 750; and chestnut hair about 850. Calculating the average-sized scalp to contain 120 square inches, a person with black hair may thus be supposed to possess about 72,000 hairs in his head. The chestnut-haired person, on the same estimate, would possess 78,000, and the flaxen-haired about 88,000 hairs.

The length of hair varies greatly. The reasons why the hair of the gentler sex is longer than that of the male cranium appears to consist in certain constitutional peculiarities connected with the nature of the hair-glands and with the hair itself. Possibly, also, the head is less frequently covered in women than in men, and this undoubtedly tends to freer growth. Certain nations possess a special development of hair. Amongst the Malays hair 7 ft. long can be seen. An American lady's hair measured 58 in. in length; whilst cases in which women's hair has measured nearly 6 ft. are by no means uncommon. In 1786 a woman was accustomed to exhibit the strength of her hair in London by encircling a large weight of 200 lb. with her locks, and thus raising the weight from the ground.

One of the most singular features of hair-growth and history is that connected with the sudden blanching of the hair. When age advances, or even after illness, it is not surprising to find the hair exhibiting greyness or whiteness. But when, in a single night, or even in a few days, the hair becomes blanched, the phenomenon is naturally held to be both curious and interesting. It is said that the hair of Marie Antoinette became grey in a single night, in 1791, after her arrest. In a few days, that of Mary Queen of Scots is said to have changed from auburn to grey. Byron's well-known lines,

"My hair is grey, but not with years;  
Nor grew it white  
In a single night,  
As men's have grown from sudden fears,"

only illustrate a well-known fact of physiology. A Sepoy, captured in 1858 after the Indian Mutiny, was undergoing examination, when his hair, which was jet black, was seen to alter its colour, and become grey in half-an-hour. A lady, aged thirty, being once called upon to give evidence in a court of law, was alarmed and annoyed by the summons, with the result that her hair became grey in a single night. There would thus appear to be no reason to doubt that under the influence of strong mental stimulation the colour of the hair may be markedly and quickly changed. The occurrence, so far from being regarded as of abnormal kind, only serves as a fresh illustration of that wonderful influence of mind over body which forms at once

one of the most interesting, as well as the most intricate, topics with which the man of science has to deal.

The general care of the hair has already been alluded to in the course of these articles. In addition to what has there been said regarding the use of a soft brush, we may add the important caution that the use of a small-tooth comb is decidedly injurious to the hair. A fine comb, used on children's heads especially, and on the adult's head as well, is certain to increase dandruff or scurf. The comb in this case actually causes and increases the affection it is believed to cure.

Concerning the treatment of common affections of the hair, an important remark is that which impresses upon us that the hair in respect of its ailments is really an intimate part of the body, and, as such, owes many of its diseases to conditions which are only to be improved or banished when the body, as a whole, is made to enjoy better health. To suppose, for example, that greyness, falling hairs, and premature baldness, are each and all to be cured merely by local applications to the head is to commit the error of supposing that the hair and its growth are independent of the bodily mechanism and functions. So far is this from the case, that the best authorities are given to look upon such hair-ailments as mere symptoms of the bodily state, and not as constituting by and of themselves special diseases. A first point, then, to which all who suffer from falling hairs, and premature greyness should pay special attention, is that which enforces upon us the duty of carefully investigating the state of the general health. It is a well-known fact that in certain diseases, the falling off of the hair is a natural and expected symptom; but when the disease itself is cured, the hair regains its natural state. Many a case of baldness has been prevented by timely attention to the general health, and by a course of tonics, a change of scene, and like restorative measures, when lotions, liniments, &c., had been tried in vain. Again, we should bear in mind that the hair, like all other parts of our frames, dates its nature and health very largely from a hereditary point of view. That is to say, just as certain persons may be born with strong heads of hair, inherited from their parents, so others are born with weak hair, and exhibit defective processes of hair-growth. So that in dealing with the hair, we must take into account all the circumstances of constitution which require to be attended to in affections of other parts of our frames.

The main details to be borne in mind in dealing with the treatment of weak hair—where no actual disease exists—may be thus summed up. Firstly, the frequent use of the brush, which must be soft. It has been well said we cannot brush the scalp *too much* or the hair itself *too little*. Stimulation of the scalp-circulation is thus effected, and the blood-supply of the hair favourably influenced. There is no virtue claimed for so-called "electric" brushes which cannot be as perfectly obtained by using an ordinary hair-brush. Secondly, the hair should not be crimped, curled, or twisted tightly to the head. By such treatment the roots are injured; and the use of the curling tongs has already been condemned as injurious. Thirdly, the use of all "hair-dyes" is pernicious—and of the "safest" of these preparations this remark holds good. A special article will deal with "dyes" and their effects. Lastly, when the hair demands a tonic application, the following—which any chemist will compound—may be tried:—Tincture of red cinchona bark, one ounce; tincture of nux vomica, two drachms; tincture of cantharides, half a drachm; add eau-de-Cologne and cocoa-nut oil to make up a four-ounce mixture. Apply to the roots of the hairs with a soft sponge night and morning.



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. VIII.—THE SKELETON.—(Continued.)

BY A. J. MANSON.

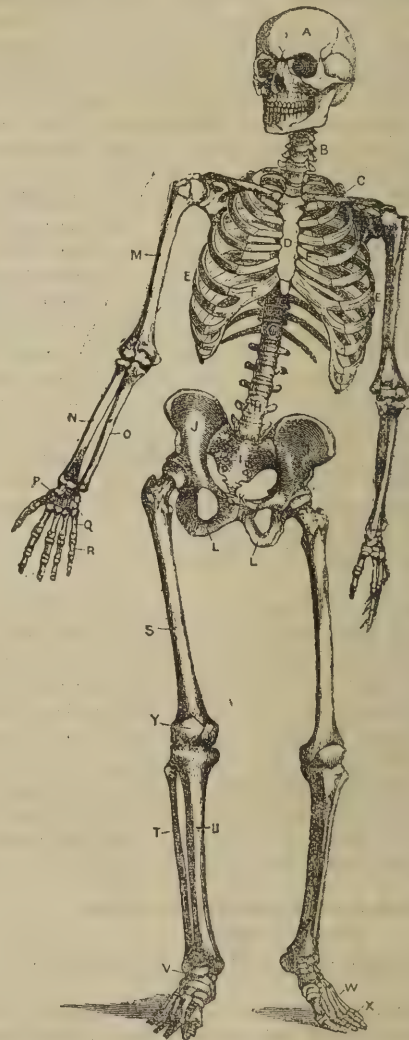
THE spine, or "backbone," which we have just studied, serves as the axis or central region of the entire frame. Attached to the spine above, and, indeed, forming a region continuous with the backbone itself, we find the skull (see Fig.—A). The *thorax*, or chest, in turn forms an offshoot from the spine, and lastly the *limbs*, as the appendages of the body, are more or less intimately connected with the spine, both in function, and as regards their structure. For convenience sake, it may be well that we should in the first instance study the structure of the chest.

The *thorax*, or chest, is the name we give to the bony cage forming the upper part of the trunk. The trunk itself, properly speaking, is divisible into head (A), chest (E E), and abdomen; and the chest thus intervenes between the head above, and the abdomen below. The chest-contents are the *heart* and *lungs*, along with the great main bloodvessels which enter or leave these organs. The gullet runs through the chest on its way to the stomach, and we also find part of the *sympathetic nervous system*, and other organs contained in this important cavity of the body. The bony structure of the chest is of highly interesting kind. Not only bone, but gristle or *cartilage*, enters extensively into the structure of this region of our frame.

We have already seen that the twelve *dorsal vertebrae* (G), or those of the back region, bear the *twelve* pairs of ribs (E E). Hence it is this part of the spine which we may regard as forming the hinder part of the chest. At the sides we find the ribs themselves; whilst we see the breastbone (or *sternum*) (D) occupying a middle position, with the *cartilages* (F F) of the ribs (or *costal cartilages*, as they are named) together forming the front wall of the cavity. The dorsal vertebrae have already been described; hence we may first consider the *ribs*, of which one pair is borne by each of the twelve vertebrae. Each rib (E E) a slender, narrow bone which joins the spine by its "head." The ribs, in fact, form a series of arches enclosing the chest cavity: the one end of the arch reposing on the spine and the other extremity—in the case of the upper ribs, at least—being attached to the breastbone. Certain of the ribs are attached each to one vertebra only. These are the first, eleventh, and twelfth ribs; and the "head" of each of these ribs bears but a single surface or facet for articulation with its vertebra. The other ribs are each joined to two adjacent vertebrae, and their "heads," therefore, present us with double facets or surfaces for attachment. Again, the ribs show each a small knob, or *tubercle* as it is termed, which joins the transverse process of the vertebra, and this assists in strengthening the rib attachments behind. It must be borne in mind that the ribs are thus "jointed" on to the spine, and the reason for this mode of movable attachment becomes clear when we remember that the ribs play a most important part in the movements of breathing. The first and twelfth ribs, both shown in the accompanying illustration, are the shortest. The ribs increase in length from the first to the eighth, whilst thereafter they decrease.

Looking at the skeleton from the front, we readily

observe that ribs do not in all cases reach the breastbone. Counting from above, downwards, we see that from the first rib, which curves round beneath the collar-bone (C) to the seventh inclusive, these bones join the breastbone (D) by means of their cartilages. Each rib thus ends in a bar of gristle, which is in turn attached to the breastbone. The upper seven ribs are hence named *true ribs*. If, now, we look at the eighth, ninth, and tenth ribs, we may observe that they join the cartilage of the seventh, and are in this way indirectly connected with the breastbone. Whilst, lastly, the eleventh and twelfth ribs spring from the backbone behind, but are free and unattached in front. The lower five ribs are often called *false ribs*, in opposition to the upper seven, or "true" ribs; and the special name of *floating ribs* is often given to the two lowest ribs, from their free condition. The whole front



The adult male skeleton.

of the chest is thus made highly elastic, and we can readily understand why severe pressure on the elastic cartilage made from before backwards may be successfully resisted, whilst the same pressure made upon the sides, where we have bones alone, would result in fracture or breakage of the ribs.

In the very old, the cartilages of the ribs become of bony nature, such a process being regarded as a kind of "degeneration" due to age. Occasionally in man, extra



ribs may be developed either on the neck vertebræ (B), above the chest, or on the lumbar vertebræ (H), below.

The "breastbone" or *sternum* (D) is a flattened bone, possessing an expanded upper part, which supports the collar-bone (C) of each side. At the sides we see the depressions in which the seven rib cartilages rest, and below the breastbone is found to end in a gristly portion, which remains, as gristle, until very late in life. Indeed, this portion only becomes fully joined to the breastbone at the age of forty or fifty.

**IMPROVEMENT IN THE PARIS MORGUE.**—Every corpse that is taken to the Paris Morgue is now quickly converted into a block almost as hard as stone. This result is obtained by Carré's chemical refrigerator, which is capable of reducing the temperature of the gruesome "conservatory," where each body is laid out, on something closely resembling a camp-bedstead in stone, to fifteen degrees below zero centigrade. At the back of this *salle* is a row of stove-like compartments in which the corpses are boxed up and frozen hard before being exposed to public view. As an illustration of the intense cold thus artificially secured, a Paris journalist, in describing a recent visit to the Morgue, says that in opening one of the compartments, the attendant took the precaution to wear a glove, lest "his hand should be burnt by contact with cold iron." The corpse which was taken out of its receptacle had been there nine hours. The doctor who accompanied the visitor struck the dead man on the breast with a stick, and the sound was just as if he had struck a stone. "C'est effrayant!" adds this descriptive writer. "My guide" he continues, "told me that the corpses once frozen at this temperature will stand erect upon their feet, and should they fall down they do not sustain the slightest scratch. But the noise is like that of a marble chimney-piece crashing down upon the floor." During the experiments which preceded the adoption of the new system, corpses in this frozen state were actually thrown about; but although they made *un fracas terrible*, they were "not in the least damaged." No wonder that the Morgue has become more than ever attractive as one of the "sights of Paris," and that the municipality is seriously contemplating the construction of a larger building for the accommodation of its unclaimed dead.—*St. James's Gazette*.

**RINKING AS A SCHOOL EXERCISE.**—In the course of a series of articles on scholastic hygiene, now being published in a Continental journal, Professor Reclam advocates the arrangement, where practicable, of a skating-rink in connection with schools. The mental advantages derived from this exercise are, he asserts, more numerous than might generally be supposed, inasmuch as it involves rapidity of thought and presence of mind in keeping clear of collisions, thus partaking of the elements tending to form the character, which are also claimed by German authorities for gymnastic exercises as carried out in their *Turnvereine*. Amongst the physical advantages of rinking, he enumerates the more noble and graceful carriage of the body which is induced by the maintenance of equilibrium, and the greater uniformity which it establishes in the distribution of the blood through the various portions of the body, this process being, it is remarked, specially desirable during the interval which separates the morning's tasks from those of the afternoon. It is also asserted that roller-skating is an excellent remedy for the excessive flow of blood to the head which so often manifests itself in weakly yet diligent pupils by bleeding of the nose. Dr. Reclam considers that pupils of ten years of age and upwards may be freely allowed to participate in this exercise.—*Lancet*

## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

#### NO. VIII.—DISINFECTION AND DISINFECTANTS.

(Continued.)

THE importance of carbolic acid as a disinfectant occupied our attention last week. Our list yet includes substances equally well known, however, and to these we must now direct attention.

The *Terebene* of Dr. Bond, of Gloucester, may be said to rank as a well-known disinfectant. In the form of soap (to be hereafter described) this agent is largely used. Terebene is made from spirits of turpentine. It possesses a fragrant odour, and is known to be antiseptic in its action. The pleasant odour commends it for use in sick-rooms, where it is valuable as a deodorant and disinfectant for commodes. It can be added with advantage, also, to the excretions in typhoid and other fevers. At Netley Hospital, Dr. Maclean used terebene with excellent result in disinfecting the excretions in cases of dysentery; whilst as a dressing to wounds and other surfaces apt to become sour and ill-smelling, terebene mixed with oil has been highly commended. The substance known as *Cuprum*, or "terebene powder," consists of terebene in combination with sulphate of copper and bichromate of potash. The special action of *cuprum* appears to be that of rendering albuminous matters inert, and it has been recommended as an application to excretions in typhoid fever and dysentery, and also as a disinfectant for drains and closets.

Allied to the type of the terebene compounds is *Sanitas*, a well-known substance, sold in fluid form, and also as a powder. *Sanitas* is manufactured from turpentine, and, like terebene, possesses an agreeable odour, which acts as an air-disinfectant in rooms, &c. It leaves no stain, and is, besides, non-poisonous. As an application for disinfecting closets, or in fluid form for making a solution into which the clothes of a fever patient should be immediately plunged on being taken from the body, "*Sanitas*" is very handy and valuable.

*Chloralum*, or *Chloride of Aluminium*, invented by Professor Gamgee, takes high rank as a disinfectant. High authorities agree in saying that this substance—which is not poisonous and possesses no odour—is of the greatest service in removing nauseous odours and arresting putrefaction and decay. As no odour is given off, chloralum acts only through the liquid being brought into contact with the diseased material. It is to be highly valued for the disinfection of the clothing of fever cases, and may also be used for scouring wood and washing walls. Applied to sewage, it is also said to prove highly advantageous, and it will also remove the smell of paint from a newly-painted room.

*McDougall's Disinfecting Powder* consists of carbolate of lime and sulphite of magnesia. Its uses are similar to those of carbolic acid powder and "*Sanitas*" powder. *Chloride of zinc* is otherwise known as *Burnett's Disinfecting Fluid*. It contains about 25 grains of the zinc to each fluid drachm of the solution. It acts especially on ammonia-compounds and organic matter, and should be used diluted with water in the proportion of 1 of the fluid to 8 of water. *Jeye's Perfect Purifier* appears to rank with the coal-tar and carbolic compounds, and appears to



be a highly useful form of disinfecting fluid. It has the merit of being cheap, and is sold in the form both of powder and fluid.

The last disinfectant on our list is the well-known "*Condy's Fluid*," which is a solution in water of the disinfectant substance, *permanganate of potass*. The fluid is either red or green in colour, and has obtained a long and well-deserved popularity as a disinfectant. The permanganate of potass—and, of course, "*Condy's Fluid*" as well—is not poisonous. It is a deodorant—that is, covers or destroys oppressive odours, and as it evolves oxygen, it may be regarded as also destroying disease matter. Hence "*Condy's Fluid*" may in this sense be regarded as acting in a double sense, and as therefore forming a very safe and reliable disinfectant. In the sick-room, "*Condy*," when dissolved in water, absorbs gases, especially if a large surface of fluid be exposed to the air.

In dealing with "*Condy's Fluid*," we should bear in mind that it shows by its loss of colour that it is exhausted, and requires renewal. This alone is a valuable test of its action. If added to foul water, we can see the deep violet hue of the "*Condy*" disappear as it exhausts itself in oxidising the decaying matter of the water. Baxter, indeed, tells us that "there is no security for the effectual fulfilment of disinfection, short of the presence of undecomposed permanganate in the liquid, after all chemical action has had time to subside." *We should therefore add "Condy's Fluid" to our suspected matter until it keeps its colour.* "*Condy's Fluid*" is not an antiseptic, and does not prevent either the appearance of the minute organisms which cause disease, or the development of putrefaction, as does carbolic acid, *with which, we must here repeat, "Condy" should never be mixed.*

In the absence of other and better disinfectants, *vinegar* might be used with advantage. Long ago, Howard, the philanthropist, employed vinegar to purify the air of the gaol pest-houses he visited. There is no doubt that vinegar acts upon ammoniacal odours and vapours, and is thus disinfectant in some degree. It may be added that, for disinfecting the excretions of typhoid fever patients, Dr. Dougall, of Glasgow, recommends hydrochloric acid, diluted with twenty times its bulk of water.

We have next to see how these disinfectants should be used practically in the healthy management both of the patient—in different fevers—and of his apartment.

## VACCINATION.

DR. CARPENTER writes as follows to the *Daily News*:—"As the anti-vaccination question, which had to give place to the Affirmation Bill last Tuesday, will probably be brought in some shape before the House of Commons this session, and as you have given a place in your columns to a statement by Mr. Tebb of the grounds on which the opposition to compulsory vaccination will be based, I trust that you will allow me briefly to present to your readers the other side of the cases referred to by Mr. Tebb. He dwells, as he has several times done, on the fact that the people of Switzerland have repudiated compulsory vaccination. But he has not told the public that the people of the United States are now generally adopting it, being convinced by the experience of the malignant small-pox epidemic of 1871-72, and of severe local recurrences of the disease since that time, of the protective value of vaccination and revaccination. The State Legislatures in many instances, the municipalities of the great cities in others, are now enforcing vaccination on all the scholars in the public schools, and prohibiting the admission

into them of any child that does not bring a vaccination certificate. According to an official circular now before me of the Secretary of the Board of Health of Illinois, no fewer than two millions of children in that one State (whose population must be at least twice that of the whole of Switzerland) have been thus vaccinated within the last two years.

Mr. Tebb refers to the evil consequences which have here and there followed vaccination in this country, all of these vaccinations having been made with humanised vaccine. But he does not tell the world that the two millions of vaccinations just referred to are affirmed by the responsible official who reports them to have been made without any serious consequences in any one case. Though he does not mention the source of the vaccine employed, I have every reason for believing it to have been heifer lymph from the establishment of Dr. Martin, of Roxbury (Boston), which I myself visited a few months ago, this being now generally used in the United States, and very disastrous consequences having followed the use of inferior "cones" prepared by other less careful purveyors. An establishment similar to Dr. Martin's is now maintained by our Government in London, and any child can be vaccinated with heifer lymph whose parent so desires. The anti-vaccinationists point triumphantly to the immunity from small-pox shown for some years past by certain of our town populations, in which there is a considerable percentage of non-vaccinated subjects. But they do not tell of what happened in various town populations similarly unprotected during the epidemic of 1871. In Leipsic, a town of 107,000 inhabitants, in which during the whole period from 1852 to 1870 there had been only 29 deaths from small-pox, but in which a very active anti-vaccination propaganda had reduced the number of vaccinations from 3,443 in 1868 to 1,970 in 1869, and 1,340 in 1870, the number of deaths from small-pox during fifteen months was 1,027, or one in every 104 living—a mortality unprecedented in any civilised community in modern times, being as if 38,400 persons were to be carried off by small-pox in fifteen months, from among the four millions of our metropolitan area (see the official account in *Archiv der Heilkunde* for 1872). In Montreal, where the French Catholic population had opposed vaccination, and resisted it to the extent of rioting, when the municipality desired to enforce it, a fearful mortality showed itself among their children, the proportion of deaths to cases among the unvaccinated being 54 per cent., or more than 1 in every 2. Yet, while this was going on, the vaccinated children of Irish Catholics, in the very same localities, almost entirely escaped, the recognition of which fact, on the part of the French Catholics, had a considerable share in removing their objection, so that vaccination is now carried out in Montreal as efficiently as in other great cities of the Dominion, with the same general immunity from small-pox. In those of the United States in which there had been a previous neglect of vaccination the epidemic of 1871-72 showed the like fatality; and since then it has been frequently necessary to break up the public schools on account of the prevalence of small-pox in their midst. This happened a few years ago in San Francisco, and quite recently in Illinois, where the vaccination order had been neglected; whilst (as the official reporters state in both instances) not a single case of small-pox has been reported in a scholar properly and recently vaccinated, even when small-pox has prevailed among the unvaccinated population of the locality. Such facts speak for themselves.

In conclusion, I would ask permission to set the public right upon an important matter as to which the reiterated



assertions of the anti-vaccinationists can be disproved on the very highest authority. In my recent letter to Dr. Lyon Playfair on this subject, of which I sent you a copy, I cited, in proof of the protection afforded to adults by revaccination, the very small proportion of deaths from small-pox in the German army during the Franco-German war (when the malignant epidemic was at its height in Europe), as compared with the enormous losses of the French un-revaccinated army during the same period. My figures are not disputed by my opponents; but they affirm that the high small-pox mortality of the French army could not have been due to the want of revaccination, since it had been entirely revaccinated before the war, and the regulations required that every fresh recruit should be revaccinated on his entrance into the service. Now, this statement is perfectly true of the original French army, and the good effect of its revaccination was shown by the almost complete immunity of the large body of troops in and around Paris from the malignant epidemic which broke out in its civil population in the early part of 1870, and caused 1,000 deaths in the one month of July. But the original French army was annihilated (as every one knows) in the early part of the war, and its place was supplied, alike in the garrison of Paris and in the provinces, by new levies of raw recruits. Doubtless, according to the regulations, all such recruits should have been revaccinated; but the simple fact is that time, opportunity, and vaccine lymph being alike wanting, they were not, the result of which was that there were 23,469 deaths from small-pox in this new army, whilst in the thoroughly revaccinated German army, in which there were no raw recruits (every man brought into the field having previously undergone his term of military service), the total small-pox mortality during the war was only 263. I make these statements, not upon hearsay evidence or reports of private correspondents, but upon the official account published in 1873 by Dr. Colin, then Médecin Principal de l'Armée, who had been, during the siege of Paris, in personal charge of the great military small-pox hospital of the Bicêtre, in which there was for several months a daily average of from 1,200 to 1,500 small-pox patients. His treatise, "La Variole" (Baillièrre, Paris, 1873) is easily obtainable by any one who wishes to know the real truth of this matter; and from its full and explicit detail of the facts of this remarkable case, I cannot see what higher appeal can be made."

VERMOUTH.—Concerning this liqueur, of the nature of which most people are utterly unaware, "M. D." writes as follows:—"Having lived for several years in a country where vermuth is drunk in large quantities, I can say, in answer to your correspondents, 'S.' and 'W. T. S.,' that it is generally considered a harmless drink, while absinthe is acknowledged to be dangerous, even by many of those who take it. Pure vermuth of Turin (for example, that of Fratelli Cora) is white wine to which vegetable bitter substances of several kinds have been added. Some sorts, labelled "Cou China," contain quinine. It is essential to know that many bad and unwholesome compounds are sold under the name of vermuth, so that care should be taken to procure the genuine article. In small doses vermuth is an agreeable aromatic and bitter tonic; it is slightly laxative, as it contains some tamarindus. In large and long-continued doses it may produce effects analogous to those of absinthe. It may be useful as medicine in appropriate cases, but is open to the objection that many people continue to drink it habitually, and in too large a quantity, after having taken it for a time as a remedy."

## Healthy Houses

"A happy home must be a healthy home."—Anon.

### DOMESTIC WATER SUPPLY.

BY W. IVISON MACADAM, F.C.S., F.I.C.,

Lecturer on Chemistry, Edinburgh School of Medicine, &c.

#### CONCLUDING PAPER.

THE substances most readily tested for in water are lime and magnesia, sulphuric and carbonic acids, and chlorine. Should a large proportion of magnesia salts be present, then a few drops of hartshorn (ammonia) will give a milkiness. Lime would be shown by the use of oxalate of ammonia. To distinguish between the sulphate and carbonate, we add nitrate of barium solution, which gives us a milky appearance with both acids, and we then decide which it is by adding to the white colour muriatic (hydrochloric) acid, when the carbonic colour is cleared up, along with a certain amount of effervescence, and the sulphuric is unchanged. Chlorine we determine by adding to the water a solution of nitrate of silver and a few drops of nitric acid, when a white colour is given. Now, these substances are present in all waters to a greater or less extent, and it is only the excess which is injurious. Chlorine in large quantity means the presence of much common salt, and whilst that body by itself would not do damage, yet it is a good indication of contamination. In all drainage waters and waters used for cooking, there is much common salt, and if these liquids find their way into a well their presence is indicated by the chlorine they contain. Care, of course, must be taken as to the source of the water, for if such should be near the sea or a local salt deposit, the indication would be useless. Still, in the majority of cases it should be looked on with suspicion. Nitrates also indicate contamination. When animal matter decomposes, it produces a certain amount of ammonia, and that body is afterwards oxidised in the soil, forming nitric acid, which combines with lime and magnesia, forming nitrates, and these, being very soluble, find their way into the water. To test for them, it is necessary first to heat about a quart bottle of the water until there is only about a half-teaspoonful left. Let this cool, and place it in a glass tube with a small piece of copper foil and some oil of vitriol. If then, on mixing and heating, red fumes are given off, we have nitrates present, and much suspicion should be cast on the water.

Where only temporary hard waters can be obtained, it is advisable to soften them before use. This can be accomplished either by heating the water or by adding to it more lime. Heating is not practicable on the large scale, and the water becomes insipid to taste, from the gases dissolved in it being driven off along with the steam. The lime method is known as Clarke's process, and depends on the lime added taking up and forming an insoluble compound with the extra carbonic acid, which gives to the water the power of holding chalk in solution. The result is that not only all the lime in the water is taken out, but also all that has been added. Care must be taken to know exactly the amount of lime necessary, else the water will be rendered alkaline by the excess of lime. The proportion to add can only be learned after a regular and careful analysis.

Where water requires to be stored at the spring, the cistern should be built of stone or good brick, and most carefully cemented both at the bottom and round the sides. The top should consist of stone slabs, and not of wooden



planks. Any beams required to support the cover should be of iron and coated with Smith's composition. This cistern should be regularly cleaned out every two or three months and all sediment removed from it. If the water has suspended siliceous and non-decomposing vegetable matters, then a sand and gravel filter should be employed, and such is best placed so that the water passes through it before finding its way into the store tank.

The pipes leading to the house should be of cast iron, coated with Smith's composition and properly jointed. Flush cocks should be provided at points, so as to allow of the thorough cleansing of the pipes, and the last of these will necessarily be at the lowest point of the system. The house pipes for cold water will be of lead and the cistern lined with the same metal. The latter should be placed in a position easily got at, and not in the rafters of the house or other position which renders it necessary to employ steps or a ladder to see into it. The position should also be one where a free current of air can be maintained from the outside. The room or closet should be regularly cleansed and the window left open. If in a locality where there is much dust, it is advisable to cover the window or other openings with thin cloth gauze. This will act as a mechanical filter and purify the air of all mechanical impurity. Care, too, must be taken that no connection is made between the drinking cistern and the sanitary arrangements of the house. The drain ventilators should be kept as far away as possible from openings to the cistern-room. For closets, &c., an extra cistern should be provided, the position of which is not of so much importance, but no connection whatever should exist between it and the drinking-water cistern; nor should any pipe be led from it, except to the closets. No stop-cock should exist from which it is possible to draw water for drinking, washing, or cooking. The overflow pipes from the cisterns must have no direct connection with the drains, but should simply be led through the wall and be left open. They are then free from contamination, and at the same time any great waste of water by means of the waste-pipe is avoided. The drinking-water cistern should have no cover, but be left free to the air. If in a dusty position, then a fine open gauze cloth may be placed over it, but no wooden or lead-lined cover. This cistern should also be regularly cleaned out, once in a month or six weeks, but great care must be taken as to how this is done. The water should first be drawn off till only five or six inches are left, and then the whole sides and bottom carefully rubbed with a soft hearth brush till deposited matter is removed. Too much care cannot be taken to keep the lead from being in any way scraped, as fresh surfaces of that metal are extremely readily acted on by water. After running off the dirty water, the operation may be repeated and the cistern refilled for use.

**HEALTH AND WAISTS.**—The reason why a small waist is admired is because, when it is natural, it goes together with the peculiar liteness and activity of a slenderly-built frame. All the bones are small, the shoulders and arms compact and little, and the curve from armpit to hip a graceful one. But an artificial small waist is invariably ugly for the same reason that, in architecture, a pillar or support is called *debased* in art when what is supported is too heavy for the thing supported, or when a base is disproportionately broad and unwieldy for that which it upholds. Tight-lacing destroys the law of proportion and balance—for it is never necessary except in stout persons, and in them it distorts the natural lines of the body into a coarse, immoderate curve, and gives an appearance of uncertainty and unsafeness.—*Mrs. Haweis.*

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

#### NO. I.—HOLIDAYING FOR HEALTH—CLIMATES.

It may be safely said that every person who takes a holiday, does so, tacitly, as an aid to health. From the chronic invalid whose life is one long idle time in search of health, to the toiler and molder, whose "day out" is regarded as a welcome break in the monotony of existence, all classes regard the holiday as a health-measure. For even if the "day out" be looked upon as a mere twelve hours of pleasure, the excitement and variety of the trip are known to present a health-aspect in the shape of a beneficial change of scene. Those who spend a month or six weeks at the seaside, on the Continent, in the Highlands of Scotland, or elsewhere, similarly present examples of holidaying with a defined purpose in view—that purpose being the recuperation of all the bodily and mental energies, and the gaining of new strength and vigour for the battle of life. The wisdom of a well-spent holiday is therefore unmistakable. Yet, there are tolerably few of us who perhaps gain all the good we might from holidaying. There is often a lack of necessary knowledge respecting the exact nature of the climate, weather, temperature, and other conditions which prevail in the districts to which people flock for rest and relaxation. Persons are frequently found in health-resorts of the most relaxing character, when they expect and require a bracing air. Again, the humid or moist character of the air of certain places which might favour some is unsuitable for others. A primary object of the present series of papers must therefore be that of supplying the readers of *HEALTH* with the characters of the more common resorts to which we are accustomed to hie for the renewal of our energies and the prolongation of life.

In the present article we will endeavour to discuss the general aspects of health-resorts as a preliminary to the description of the various places and localities, and of their special characters viewed from the standpoint of medical science. It is, perhaps, needless to point out that the modern and prevailing tendency of literally scouring through a country during a holiday season, and of spending most of the allotted time in railway-carriages and steamers, interspersed with hurried glimpses of cathedrals, picture-galleries, and other "objects of interest"—to quote the guide-book phrase—is thoroughly to be condemned as a waste, not merely of money, but possibly of health as well. We cannot even see a country under such circumstances. The glimpses we may gain of the life and customs of other lands are fragmentary at the best; and the fatigue endured by many well-intentioned persons, determined to "do" the Continent, or anywhere else, in such a fashion, is very often the beginning of serious ailments. Such a mode of holidaying gives no pleasure, as it certainly is opposed to all "rest." The "cheap tours" and facilities now offered for seeing the world at a tolerably moderate cost are by no means an unmixed advantage. They are decidedly inimical to health—if by that term we mean the due rest and careful sustenance of the body and mind



during their periods of leisure. On the other hand the cheapening of fares gives, to those who know how to use their time and liberty wisely, an immense advantage over that enjoyed by our forefathers. For a moderate sum we can now, if time permits, take a sea voyage in the well-appointed Peninsular and Oriental Company's steamers to the East and back. Other companies offer similar facilities of transit; and thus, from the medical standpoint at least, we can see how important are the means of cure for disease which such enterprise lays at our doors.

A medical writer, speaking of this tendency to erroneous holidaying, says: "To youth and health the charm of foreign travel is always enticing; but when the bloom of health and youth has departed, and some of the weariness of riper age and failing health is felt, nothing requires more careful forethought than change of air. A person who goes to many continental so-called 'health-resorts,' ought to take health in his hand, instead of searching for health when he is there. A tired or unhealthy body and a jaded mind are not to be renovated by long excursions, exposures to sudden thermometric changes, or to insanitary conditions so prevalent even at many of the most favoured Continental health-resorts. The fatigue of the journey to many Continental spas; the changes of temperature experienced in the most favoured spots; the incessant noise, and absence of homely seclusion at most of the large foreign hotels; the frequent inattention to cleanliness, and, in English ideas, even to decency in some important domestic arrangements; and the defective general sanitation, are all circumstances which it is not desirable for many invalids (we would add or for any one in search of health and rest) to face."

Taking the vexed question of *climates* first of all in hand, we may find that a rough-and-ready, but still satisfactory division, gives us four chief varieties under which health-resorts may be grouped. There are, first of all, climates and resorts which may be called *bracing*. In such places the temperature in winter, whilst high, is not oppressive in its nature. There is a tendency to dryness, and the atmosphere contains a moderate quantity of *ozone*, the nature and effects of which will be duly noted in future papers. The prevailing winds are also comparatively mild in nature. Examples of these *bracing climates* are to be found at Dover, Brighton, and Southport, at home; and at Malaga, Algiers, and Mentone abroad. Roughly speaking, such places suit persons who have delicate chests or a tendency to consumption, whilst liver complaints and kidney disorders are also benefited by a stay thereat. On the other hand, people of a full-blooded habit, or of an apoplectic tendency, or with any disease of the heart or blood-vessels, are not, as a rule, benefited by a residence in bracing climates.

Second in order come those resorts which have been termed *exciting* and *stimulating*. Here the air is very dry, and charged with electricity. The ozone, in consequence, predominates largely; while in the early months of the year, and later on as well, the winds are keen and cold. We have few British resorts which present these combinations of characters. Of the foreign places which correspond to this description, Nice, Florence, Montpellier, Genoa, and Naples are the best examples. Nervous persons and consumptives avoid these resorts, and they are injurious to such as require complete repose of the entire system. Persons who are subject to chronic rheumatism, and those who suffer from relaxed membranes (*e.g.*, throat cases) are benefited by a stay at such places. To send a consumptive to Naples, for example, or to Florence, would be to hasten a fatal result. As a writer has remarked, the Italian proverb, "*Vedi Napoli e po' mori*," ("See Naples

and die") may be taken in such a case in a literal, and not in an imaginative or metaphorical, sense.

The third variety of climate is that named the *relaxing*. Torquay is the type of a British climate of this description, just as Madeira may be selected as a foreign representative. In such resorts, the tendency of the climate is towards an excess of moisture. Hence cases of consumption and other lung diseases, benefit from a stay. For those who are languid, and who require bracing up it is evident these places are quite unsuitable. The *sedative climates* form the fourth division. These are, for the most part, to be found abroad, as at Rome, Pau, Venice, and Cannes. The air is neither too moist, nor, on the other hand, too dry. Nervous dyspeptics, and certain forms of consumption, find residence in such resorts beneficial.

For purposes of health and holidaying, this classification of climates may be taken as serviceable. In judging of the value of health-resorts, we must, however, adopt a more localised method of indicating the utility of the best known situations whither we repair for health. Accordingly, we shall, in due course, describe the prevalent climatic characters of each place mentioned, and the affections it may be presumed to benefit. In our next paper, we shall discuss, as a useful preliminary study, the chief value and advantages of the sea as a health-resort.

**GLACIALINE.**—According to Dr. Besana, this substance, which has met with so much favour in England and elsewhere as an antiseptic, especially for the preservation of milk, meat, and other articles of food, has the following composition:—Boracic acid, 18 parts; borax, 9 parts; sugar, 9 parts; glycerine, 6 parts. A Roman composition of a similar kind was found to be nothing but pure boracic acid. It is called salt of glacialine, and sells at 5 f. per kilogramme, the market price of boracic acid being exactly half that rate.

**VEGETARIANISM.**—Mrs. Norman Kerr lately entertained about 100 employes of the Vestry of St. Marylebone at a vegetarian supper at the Walmer Castle Coffee Tavern, Seymour-place, Marylebone-road. There were also present Dr. W. B. Richardson, the Rev. W. Barker (rector of St. Marylebone), and Dr. W. Blyth. The dinner consisted of "hotch-potch" soup, which was much like Scotch broth, a savoury pie, a "sweet," cocoa, and bread, and the cost was calculated at 3d. per head. For the "hotch-potch" soup, the materials were two bunches of turnips, which cost 8d.; one bunch of carrots, 4d.; two bunches of leeks, 6d.; two heads of celery, 5d.; 6 lb. potatoes, 6d.; one pint of green peas, 2d.; parsley, 3d.; and  $\frac{1}{2}$  lb. butter, 7d.; making a total cost of 3s. 5d. There were six loaves of brown bread, at 9d. per quarter loaf, costing 4s. 6d. For the savoury pie, the materials were two and a half gallons of haricot beans, at 2d. per quart, 1s. 8d.; 15 lb. flour, at 7d. per quarter, 2s. 6d.; 6 lb. onions, at 1d. per lb., 6d.; and  $1\frac{1}{2}$  lb. butter, at 1s. 2d. per lb., 1s. 9d.; costing altogether 6s. 5d. For the "sweet" there were used 17 lb. rice at 2d. per lb., 2s. 10d.; seven bunches of rhubarb, at  $2\frac{1}{2}$ d. per lb., 1s. 5 $\frac{1}{2}$ d.; and 10 lb. sugar, at  $2\frac{1}{2}$ d. per lb., 2s. 1d., making the cost 6s. 4 $\frac{1}{2}$ d. For drink there were supplied 100 cups of coffee, at  $\frac{1}{2}$ d. per cup, costing 4s. 2d. The total cost for 100 persons was thus £1. 4s. 10 $\frac{1}{2}$ d., or 3d. each person. The object was to show how cheaply a nourishing meal might be provided. Apologies were read from Lords Waldegrave, Claud Hamilton, and Mount-Temple (who stated that Lady Mount-Temple had been a vegetarian for many years), Mr. Ernest Hart, and Sir Patrick Colquhoun (who sympathised warmly with vegetarian diet, and practised it when in his own house).—*British Medical Journal*.



## Notings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

**A DOCTOR'S MODEL HOUSE.**—We have to congratulate Dr. Hogg, of Bedford-park, Chiswick, on his bold but successful attempt to solve the vexed question of house-heating and ventilating. Dr. Hogg has built himself a house in the Queen Anne style for which Bedford-park is renowned, where no window can open, and where there is no fireplace except in the kitchen. Underneath the hall, a large passage is used as the intake of fresh air. Here it can be cooled in summer by ice or water-spray, while in winter it is warmed by hot steam-pipes, which are economically heated by a small coke stove. The air then passes up into the hall, from which it is only separated by an iron trelliswork, and travels into every room of the house by apertures made in the skirtings and cornices. In the ceiling of each room there are one or two openings and exhaust shafts, leading to the foul air-chamber in the roof of the house. To produce the exhaust suction, a large shaft runs from the foul air-chamber down to the back of the kitchen fire, where the heat of the boiler and the fire suffice to attract the air. From the back of the kitchen fire, in the basement of the house, the air again travels up. A square brick shaft or chimney conveys it through the roof and into the open. In the centre of this shaft is a circular metallic flue, which carries away the smoke of the kitchen-fire, and this flue, always more or less heated, stimulates the current of air. A comparison of the minimum velocity at which the air moves forward in the extracting flues (200 feet per minute) with the cubic contents of the house, shows that the atmosphere is entirely changed throughout the dwelling once in every twenty minutes. This result is obtained imperceptibly—that is, without the slightest draught; yet ten persons smoking in one room felt no inconvenience, and next morning there was not the slightest trace or taint of tobacco odour remaining. Every part of the house being equally warm, all danger of catching cold from draughty corridors, chilly bed or bath rooms, is obviated. A nurse and three children sleep in one room measuring fourteen feet square by ten feet high. In an ordinary house such a room would have been rather "stuffy" in the morning, but the system of ventilation worked so well during the night, as well as during the day, that the room was quite sweet in the morning. One of the children used to suffer from defective circulation, cold fingers, chilblains, blueness of the extremities, &c., but since he has lived in the new house he has experienced no such inconvenience. Finally, as there are no fires in the rooms, as the heavier particles of dust are precipitated in the intake chamber before the air enters the house, two servants can do the entire domestic work where three were formerly necessary, and a much higher degree of cleanliness is maintained. In coals, the cost has been reduced by one-third, though the entire house is now warmed, instead of a few rooms. The experiment, it will be seen, has been tested in more senses than one, and has proved a success. From a domestic point of view it is economical. From a medical point of view it is hardly necessary to dwell on the advantages of a perfectly even temperature throughout the whole house, thus rendering it no longer necessary to confine a patient to one room. This temperature can be increased or lessened at will at all seasons, the air is comparatively free from dust particles, and its renewal can be

ensured with mathematical precision, without incurring the risk of those sudden draughts and transitions involved by the opening of doors and windows. Mr. E. J. May is the architect who has executed this important experiment, which will, to judge from the results attained, soon find many imitators. On the other hand, such reform will also be opposed by the rooted habits of the country. There are few Englishmen who will not object to the abolition of fireplaces, and it is awkward on an emergency to find the window hermetically closed, so that it is impossible to lean out and hail the friendly policeman or watch what is passing.—*Lancet.*

+ + +

**THE CONSUMPTION OF MEAT.**—Owing to our climate we have always been a great meat-consuming nation, and, therefore, a failure in the supply of animal food to us is a very different matter to what it would be to our European neighbours, by whom it is regarded more in the light of a luxury than a necessity. Men have been seen occasionally in Spain to do a hard day's work on a few potatoes, bread, and oil, and the visitor to Valencia or other cities of the Peninsula must often have noticed the workmen there eating their breakfast of bread and grapes, as they walk along the streets, with evident relish. But such food would hardly suit an iron puddler or collier in this country; and, regardless of what vegetarians may say to the contrary, we believe that a certain amount of animal food is of the utmost importance in England for men engaged in laborious work. The Frenchman has his soup, composed of little more than bread, water, and cabbage; the Spaniard has his oil and garlic; the Italian has macaroni; and the Indian his rice; but the Englishman must have, or ought to have, his beef and mutton. Use and not abuse should be the motto, however, for too much meat is, we believe, not conducive to longevity, and in support of this fact we will mention the Gaucho of the South American pampas. That individual may be said to live almost entirely on mutton or beef, for he seldom eats anything with his asado, as his roast joint is there called, except a few grains of farina or cassava meal. His life is spent in the open air, on horse-back principally, and although spare and active to a degree, he seldom reaches a ripe old age; and a white-haired Gaucho is almost as great a curiosity as Farini's "missing link" at the Aquarium. From this it may be gathered that meat should not be taken to excess, and it is a question worth consideration whether some of us who have animal food three times a day might not advantageously as regards health dispense with a portion of such food, for too much is often worse than too little.—*Land and Water.*

+ + +

**FLIES IN THE HUMAN DIGESTIVE SYSTEM.**—It has been long admitted that no insect, properly so called, has ever been proved to take up its abode in the human alimentary canal, either in the larval, pupal, or perfect state. When larvæ have been found in the intestine, their presence has ever been shown to be accidental, the parents never seeking for the admission of their ova into the human body by any of the remarkable stratagems common among insects. Flies lay their eggs on organic matter, which is capable of nourishing the larvæ when decomposing in the open air; the swallowing of such matter, together with the eggs, involves the destruction of the latter, together with the digestion of the former. No species of fly plays the same trick upon man as *Estrus* plays upon the horse—depositing its eggs on any part of the horse's body that the animal can reach with his tongue. Still, isolated instances are recorded of larvæ giving



considerable trouble. Dr. Wacker, of Landsberg, in Bavaria, has published, in a Continental journal, some clinical notes of the case of a farm-boy, aged 21, who consulted him for relief from colicky pains, a feeling of fulness in the digestive organ, and frequent fits of nausea and tendency to faintness, especially when in a close atmosphere, such as that of his cottage or a stable. Dr. Wacker prescribed one-eighth of a litre of Hunyadi János water, to be taken every morning on an empty stomach. On the third day a vast mass (over two litres) of larvæ, partly alive and partly dead, was passed from the digestive system. The patient at once recovered, feeling no more unpleasant symptoms, even when in a hot room. On examination, the grubs were found to be larvæ of a common dipterous insect, *Anthomyia cuniculina*, closely allied to the house-fly and blue-bottle. They resembled gentles; their bodies were divided into ten segments by nine oblique rings; their backs and sides bore minute spines, which appeared to have caused the irritation and pain felt by the patient. Dr. Wacker was led to believe that the *Anthomyia* was swallowed in the form of eggs, which actually hatched in the patient's intestine, the larvæ undergoing rapid destruction, not, however, complete when they were passed from the bowel, for many were alive. Among other species of insects that have been found in human subjects, in the larval state, are the common fly (*Musca domestica*); the blue-bottle (*M. vomitoria*); *Anthomyia scalaris*; and the lesser house-fly (*A. canicularis*). The caterpillar of the common tabby moth (*Aglossa pinguinalis*) has, in several instances, been found after causing symptoms identical with those observed in Dr. Wacker's patient. This larva naturally lives in butter and suet, and on greasy horse-cloths in stables. Among the German peasantry, who delight in eating raw and imperfectly pickled articles of food, such accidents are to be expected.—*British Medical Journal*.

♦ ♦ ♦

In all our large cities there are hoards of little ragged urchins who live on the streets, earning money by trades closely akin to begging. At night they sleep in pestilential fever-dens or low lodging-houses, where they see and hear everything that is vile; they grow up devoid of moral sense, and drift in most cases into the wretched modes of life their parents pursued. I have been much brought in contact with this class of children through a rescue work carried on in Liverpool during the past ten years. We have a home for destitute children where we train them for a few months, and then emigrate them to Canada. None who have not come in contact with the refuse of our cities could believe what cruelty these children often suffer from drunken parents; they sometimes come into our home a mass of sores and bruises and covered with vermin, and more like mere animals than human beings. They often tremble when they hear that "father" is coming to see them, and cry out with terror when "mother" insists upon taking them away. It has been deeply impressed upon my mind that unless we can get powers from the State to protect these children from the corrupting influences at home, we must resign ourselves to a never-ending stream of human degradation in our midst. It is true that the Education Act has done something to civilise these waifs and strays; most of them are now in attendance at some school. In a ragged school of 1,000 children that I am acquainted with, we found that the great majority of the children could read, which was not the case a few years ago.—Samuel Smith, M.P., *Nineteenth Century*.

## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Health Lectures for the People.* 1st, 2nd, and 3rd Series. Delivered in Edinburgh, from 1880-83. (Edinburgh: Macniven & Wallace.)

WE are of opinion that the people of Edinburgh are to be highly congratulated, not only on the spirited health-policy which enabled them to enjoy three distinct courses of admirable "Health Lectures," but also upon the publishing enterprise which has made possible the literary issue—in the form of three handsome volumes—of these useful discourses. There can be no question of the wisdom which induces the publication of health-lectures. The Manchester Health Lectures, we understand, have had a large and remunerative sale in published form. If attractiveness of binding, clearness of type, and general excellence of illustration can be supposed to favour the sale of any volumes, we may safely hold the opinion that the lectures before us have had, and will, in the future command, a large and steady sale. Mrs. Trayner, the moving spirit of this admirable movement, supplies a preface to the first series, and indicates, in a very clear fashion, the possible good which thoughtful attention on the part of the people given to health-topics may effect. The first series of these lectures is largely preparatory for the more practical work of succeeding lectures. Professor Fleeming Jenkin gives some good advice concerning the "Care of the Body," and Drs. J. A. Russell and Andrew Wilson similarly supply fundamental information on "Food and Drink" and "Lungs and Air" respectively. "The Blood and its Circulation," by

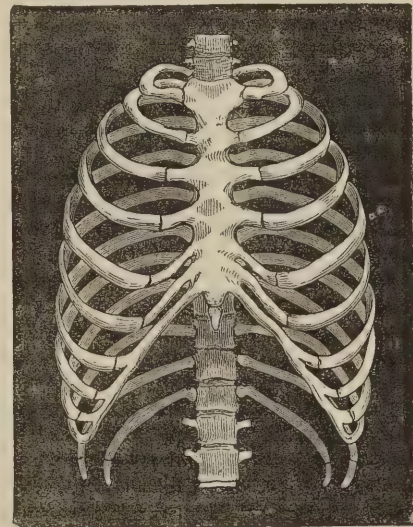


Fig. 1. The natural chest-skeleton, viewed from the front.

Dr. Foulis, leads to "Accidents and Emergencies," by Professor Annandale; whilst Dr. Angus Macdonald gives sage advice to the fair sex regarding the management of their health. The remaining lecturers discoursed each on a topic of high importance. Drs. Underhill and Macadam illustrated each his own special study, the former in the "Rearing of Children," and the latter on "Use and Abuse of Water in Houses," whilst Dr. Smart, lecturing on "Preventible Diseases," and Professor Fraser on "Alcohol and Tobacco," supplied valuable information on two subjects of high social importance.

The second series of lectures appear to us to have largely



increased in practical interest over the first course. Amongst the topics which appear to us to possess a wide interest for every one, are the themes treated by Drs. Cunningham, Jamieson, and Foulis respectively. In the discourse of Dr. Cunningham on "The Human Body," we are presented with a most interesting *résumé* of the broad facts of human structure and function. Again, the illustrations—some of which we reproduce—taken from Dr. Cunningham's discourse, assist in a very marked degree the comprehension of his lecture. Take, for example, Figs. 1 and 2, representing the normal chest skeleton, and that of a girl, aged 23, deformed by tight-lacing. These illustrations appeal to the public judgment far more effectually than words. Dr. Cunningham says of this practice:—

"The chest is no longer conical (*i.e.*, narrow above and wide below), but it has assumed the shape of the stays, and is shaped like an egg, with the large end uppermost. Lateral curvature of the spine to a greater or less extent is a very frequent accompaniment of this, and the right shoulder is generally rendered higher than the left."

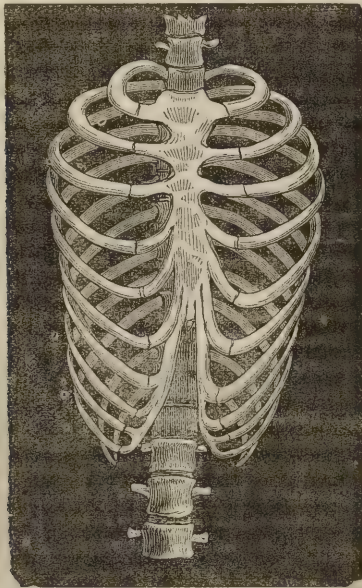


Fig. 2. A girl's chest deformed by tight-lacing.

Again, his words may bear quotation when he adds:—

"But I fancy I hear you say, 'Is this not too sweeping a condemnation? It is only a certain proportion of the sex which lace tightly and wear such apparel.' I am quite willing to grant this, but there are very few women indeed who dispense with stays altogether, and however loosely these may be applied they give an artificial support to the spine, and thus detract from its inherent strength. Stays act exactly in the same way as a prop to a tree. It is a well-known fact that whenever a tree becomes accustomed to the support of a prop it generally ceases to take strong hold upon the ground with its roots; it, in fact, relies upon the prop for its support. In like manner, the stays weaken the spine. If a corset must be worn, then let it be one with no bones, but composed of soft material quilted or corded."

These are powerful words, because they are so apt and so true. Dr. Cunningham does not appeal to the imagination of his hearers, or to any details which even the most unlearned cannot appreciate. If, as is clear, it is a hurtful and noxious practice to compress waists, the sooner women of the upper and middle classes, who illustrate the

deformity, as our streets daily show, learn its true nature, the better will it be for the health not only of present but of future generations.

(To be continued.)

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply.

All Communications, &c., intended for the EDITOR—including Books for review, Sanitary Reports, Abstracts of Papers, specimens of Sanitary Appliances, &c.—to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

To CONTRIBUTORS.—The Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

THE EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.]

### EXERCISE AND EXCESS.

SIR,—At the present time, when mental overwork is the rule, not the exception, a strong feeling prevails in favour of the necessity of muscular exercise. People judge rightly that it is injurious to exercise the brain inordinately, to the neglect of the rest of the body; but, then, straightway they rush to the other extreme, and prescribe cures which do more harm than the disease. Once possessed of the idea that muscular exercise is beneficial, they firmly support the old, but exceedingly fallacious, proposition that "you can't have too much of a good thing."

Sir William Gull once said in his report on the physical health of the candidates for the Indian Civil Service: "The men who have been rejected have not failed through mere weakness of constitution, but (with only a solitary exception or two) from a mechanical defect in the valves of the heart in otherwise strong men, and for the most part traceable to over-muscular exercises."

Failing to recognise that excess is bad in whatever direction it may be, they fly from one evil to another. It seems a well-established physiological fact that the same effect may arise equally from the absence of certain conditions, and from their presence in too great a degree, and from this the golden lesson may be drawn: distribute your conditions equally and you will get a well-balanced result. Now this is exactly what is wanted, and we may take the "well-balanced result" to mean, in this case, that "consummation devoutly to be wished,"—a healthy mind in a healthy body. If any one should say, "the mind is what makes the man, therefore, let us consider the mind only," he is wrong; for it is impossible to have a healthy mind without a healthy body. Disease or weakness is sure to creep out somewhere and at some time, though it may be well and long-concealed. On the other hand, if any one should hold that "the body makes the mind; let us, therefore, attend only to the body," he is equally wrong. For by so doing a very fine animal might be produced, but yet one deficient in those characteristics which constitute the superiority of man over those animals nearest him in the scale of evolution.

In either case the balance of power would be lost, and whether the scale tips on the one side or on the other it matters little, for evil results in either case. Body and mind should always be con-



sidered in relation to one another, and, so far as it is in our power, we ought to counteract the tendency which each has to overbalance the other.—I am yours, &c.,  
ADA S. BALLIN.

### CRAMMING IN SCHOOLS.

SIR,—I observed in a Scotch newspaper, which it is unnecessary to particularise, a report of the action of a certain School Board which censured the teachers in one of the schools because they had not succeeded in bringing their pupils up to the standard by which the Government grant could be obtained; and it was distinctly impressed on the said teachers that they would do well to push on their pupils, so that at the next examination the number who passed the required standard might show a higher average.

The action of this School Board was based on economical considerations, and showed a due sense of its duty towards the rate-payers; but it is open to serious doubt whether the cramming system of teaching which was thus enforced, and which is common enough everywhere, is good for the children. Healthful exercise, or play, is absolutely necessary for the young, if they are to grow up strong and healthy; but this the schoolmaster seldom takes into consideration. He is generally anxious, for his own sake, to get as many of his pupils to pass as possible, not only for the sake of the grant, but because it raises his credit as a teacher. His pupils are sometimes willing victims, for the desire to excel is strong in children; but parents can often tell at what cost these "certificates," of which their children are so proud, are obtained.

Pale faces, loss of appetite, and starting in their sleep, is a sure indication that the children have had more tasks than is good for them.

Is it not possible to have some other test of the efficiency of teachers, which will not press so hardly on the children? Naturally, all teachers are anxious to obtain the "grant," and so long as it is to be obtained by cramming, cram they must, and will. W. D.

May 19.

### INSPECTION OF BAKEHOUSES.

SIR,—In a former number of HEALTH you call attention to the sanitary state of bakehouses. Truly there is no kind of workshops that should be cleaner, better lighted, and ventilated than bakehouses. But the reverse is too often the case. Many of them are dark, dirty, underground cellars, such as an inspector is almost afraid to venture into; at any rate, in many cases no inspection is made. Speaking from personal experience, having been a member of the trade for sixteen years, and having been in different parts of Scotland, I can only remember two visits of an inspector to any workshops wherein I have worked. The inspectors may visit the front shop, and the master give them his guarantee that all is clean and well ordered. That may suffice for the inspector, but I am afraid there are only too many inspections of that kind.

I am, yours, &c., SKELETON AT OVEN.

Edinburgh, May 24.

### INFANT'S BAND.

SIR,—Seeing a paragraph in HEALTH of the 11th inst., attributing the invention of a band for infants to another person, I beg to inform you and your readers that the idea of an "Elastic Zone," or "Infants' Belt," originated with me several years ago. The intention is to supersede the use of the "Roller," which is the cause of much discomfort, and even injury, to infants, in the hands of ignorant nurses and mothers.—Yours, &c.,  
M. A. B.

London, May 20.

### FOOD.

SIR,—Under the above heading, your correspondent "M. Nunn," in No. 4 of HEALTH, May 4, asks a few questions and makes some remarks. To these I will endeavour to give an answer, in the hope that you may consider it worthy of publication.

Your correspondent remarks, "Pure food makes pure blood, and pure blood makes pure health." This statement requires considerable modification. Pure food adapted to the conditions of the individual in relation to heat of climate, season of year, amount of physical and mental labour, idiosyncrasies of constitution, digestion, and assimilation (assuming that the individual has no hereditary or acquired impurities of blood to start with), will undoubtedly produce pure blood. The whole question then becomes, what is pure food for each individual? What is so for one is not so for another. To discuss the whole question would carry me beyond the limits of a letter, but briefly:—In hot climates—I am speaking as generally as possible—stimulating diet is not required, and is injurious. For those who are undergoing very severe physical labour, however—as is the case with certain South American tribes who spend a great part of every day hard

riding on horse-back—meat is almost the sole diet, and they appear perfectly healthy. M. Nunn asks, "What peace do we give flocks and herds?" If we did not eat meat, a great many would not be allowed to have a peaceful life at all. As matters are arranged, a peaceful life makes the fattest meat, and our flocks and herds are probably happy till death, not knowing till the last moment what is going to be their fate. Did we not kill them, we should be overrun with cattle requiring the employment of land from and on which to feed them, which might be better employed (or more economically) by growing grain and roots for ourselves. If we give them no ground their life would be "not a happy one." As the case stands we probably feed them too highly to make healthy animals and wholesome meat; but this by the way. Again, "Do we live well by eating second-hand food? The bullock eats grass and turnips, and we, in eating the bullock, eat second-hand grass and turnips, and pay dearly for this second-hand article."

The portion I have placed in italics is probably true, and simply teaches that those only who can afford meat ought to take it, since life, and health, and strength can be supported without flesh meat. If you cannot afford a hansom you must take the bus, or walk, on the grounds of economy. It is an expensive food because it is a manufactured article. The bullock has converted the protoplasm of grass and turnips into bullock protoplasm in the laboratory of its system, and for us is only left the conversion from bullock-protoplasm to human in our own workshops. This may be likened to a builder buying his bricks ready made, instead of having to make them himself from the raw material. The amount of energy expended by us in assimilation, is probably a great deal less than any chemical analysis would lead us to suppose.—I am yours, &c.  
SURGEON.

## QUERIES AND ANSWERS.

### GENERAL.

B. COGAN.—Named after Mesmer, a French peasant.

CT. O. A.—Ferrier's "Functions of the Brain" will suit your purpose.

C. O. B.—The *intervertebral discs*, as explained in the article, are the plates of cartilage that lie one between each pair of vertebrae, or joints of the spine.

FOX.—The term *Algæ* is applied to the large group of lowest plants. Yes, a seaweed is an "Alga."

ALICE K.—The substance is obtained from certain cavities in the whale's head.

HAL. C.—No, not at present

G. GRACE.—"Health Resorts" you will see noticed in the present number.

G. ACROSS.—See our articles on "Electricity and Health," which will shortly be commenced.

A. G. B.—The *sphenoid bone* lies in the floor of the skull. It derives its name from the Greek for a wedge.

LEARNER.—Carbonic acid and carbonic dioxide (CO<sub>2</sub>) are one and the same.

MARIAN.—Chlorophyll is the green colouring matter of plants.

### SANITARY.

BLOXAM.—Municipal and Police Acts. No; local.

A. H. PEARSON.—You certainly can recover damages. But in your case the evidence is incomplete.

C. P.—Write to the manufacturers direct.

INSPECTOR.—We believe that the "Sanitas Company" supply a special "emulsion" for mixing with water for street-watering purposes.

INQUIRER.—See Parke's "Practical Hygiene" (Sixth Edition).

A. C.—Read the correspondence in the *British Medical Journal*.

E. ELDER.—No; Buchan's trap should suit you.

C. COSTIGAN.—About £30, we suppose; not more.

A. L. B.—There is no doubt the practice is illegal. Recent decisions make this quite clear.

### MEDICAL.

OSSA.—We do not name particular surgeons or physicians, for very obvious reasons. Address your inquiry to any leading surgeon. The surgeon to whose work we alluded (so far as we know) cannot be seen in London.

E. P. STEVENSON.—The treatment ought to consist, we think, in simple water-dressing. Wounds of the kind you mention heal readily under this treatment, unless there is any special reason to the contrary. Vaseline should do good; but the wound should certainly not be "re-opened" on each fresh application of lint. Write again if, with a simple water-dressing with lint, the wound does not show signs of mending. Try "boracic lint" also.



**PHENIX.**—Difficult to say. But by all means give the nutritious food and gentle exercise a trial. Avoid overdoing exercise. A surgeon might be able to recommend splints; but at your age, we should say trust more to good food, moderate exercise, and rest, than to any attempts at surgical interference. Cases have certainly improved under the above treatment, and care of general health.

**E. W. S. N.**—The theory which was told you concerning the patient's health and cause of illness is certainly remarkable. Have you tried some general treatment, such as cod-liver oil or cod-oil emulsion? You may also try the effect of gargles of tannic acid (3 grains to the ounce of water). Should these measures not give relief, the patient may take 3 grains of iodide of potass twice a day for a week. This remedy may produce the symptoms of "cold in the head" at first, but it is valuable in all glandular troubles.

**CUPELLA.**—Each case of injury must be judged on its own merits. Injury to the knee-joint should always be carefully looked to. In your own interest, we should say, see a surgeon. Hot fomentations and, above all, rest, are the remedies for such an injury; but a surgeon alone can, after seeing you, give you a decided opinion concerning your injury.

**PORTOBELLO.**—Yes: cod-liver oil, or cod-oil emulsion, would certainly do you good. Avoid stimulants of all kinds, and certainly be careful of all risk of cold. As regards the cold bath, we advise you to wait a little before recommencing it. Let another month elapse, and attend carefully to your health.

**D. D. SHAW.**—We are afraid you must curtail your reading for the sake of your eyes. Take more outdoor exercise, walking, &c., all the summer. We believe that by ceasing your reading for some months you will benefit in the long-run. If you wear glasses at your work, your eyes must have enough strain without further trying them in reading. The medical man you have consulted is a high authority in the matter.

**GEORGE.**—1. Usually heat in the blood, or similar disturbance. Careful attention to diet, moderate exercise, temperance, and slight aperient medicine, such as "Æsculap" mineral water. 2. Blushing is a nervous phenomenon—often constitutional. As it is not a disease, no cure can be prescribed. Cultivate a "robust frame of mind." 3. Exercise. Depends on taste—rowing, gymnastics, &c.; but you should regulate your exercise by your work.

**GODFREY.**—Your ailment, if we may so call it, is not a disease. Your case is perfectly common in health, and is perfectly natural. See directions to "Rickardo," in No. 5, HEALTH. Moderate exercise and non-stimulating dietary may be recommended; but you are perfectly well. It is cases like yours that quacks deceive persons into supposing those of disease; so our earnest advice to you is, to regard yourself as perfectly well, and listen to no suggestion that you are ill.

**A. EDWARDS.**—Don't get low-spirited. From your account of yourself, we fancy you are hypochondriac. There is no indication in your remarks that you are in any way consumptive. The digestive disturbance you suffer from proceeds probably from a weak stomach. Our advice is, to continue your careful living. Possibly a little less exercise would be an improvement. Continue your walks and the cold sponging, and clothe warmly. Don't eat late at night. You might begin taking a little cod-liver oil occasionally. In your case, the preservation of your general health is your sheet-anchor of safety. Don't take aperients regularly; a little mineral water will correct acidity.

**IRRITABLE.**—So far as we can judge, you suffer from a not uncommon form of nervous irritability. Probably the cause is overwork. In your case, to prescribe medicine is useless. Our best advice to you is to endeavour to procure a lengthened holiday, change of scene, and cheerful society. We believe that a couple of months' complete rest, with residence near the sea (if it agrees with you), will, in your case, form a complete cure. See that your bedroom is well ventilated. Attention to ventilation often cures disturbed rest.

**H. V. THOMPSON.**—See our reply to "Rickardo" in No. 5, HEALTH; also replies to "Charles H.," and "Youth," in No. 6. You should have strongly impressed upon you the idea that you suffer from no actual disease. You have evidently worried yourself into a state of high excitement. Live temperately and attend to the directions given to the other correspondents above mentioned. Write again if you still suffer.

**STOBBS.**—How do you know you suffer from the affection you name? There should be no such results at your age. Try what absence from home for a time will do. Your idea, we make bold to say, is incorrect. Any light tonic and rest will restore you. Remember the golden advice concerning "moderation in all things."

**ANXIOUSLY.**—Use Cleaver's "Terebene Soap," or "Sanitas Soap," and wash frequently therewith. Then apply fullers' earth, to be had of any druggist. A little pure Vaseline applied to the part will also benefit you. Look to the state of your clothing, and see that no source of irritation exists.

**X. Y. Z.**—What kind of apparatus do you use? There should be no difficulty. The expulsion is due to muscular contraction. A little force may be used. The treatment recommended should be of service; but you certainly require attention being paid to the general health as well. If not better, we shall be glad to be of any further service to you.

**BELPHEGOR.**—See reply to "H. V. Thompson" in present number. You acted very foolishly, we think, and all your symptoms are merely those of intense irritability. The physician's advice to you is worthy of being followed. Remember "the golden mean," however, and be careful and moderate in your life. The "electrical appliances" are not needed in your case. Your health being good, all that is required is patience, control, and temperance.

**AETHOL.**—See reply to "Belphegor," above. Your case is by no means hopeless; but persons in your state usually run to "quacks," who magnify your ailments, and cause you endless misery. You want bracing up, and a strong tonic, in the shape of change of air and scene. Any doctor will gladly advise you, if you are frank enough to tell him that your circumstances will not enable you to afford a fee. Charity and kindness are not rare in the medical world. By change and cheerful society you will effect a cure. Try the effect of fifteen grains of bromide of potass, on alternate nights, at bedtime, for a week or two.

**CINCHONA.**—Consult replies to "Rickardo," No. 5, HEALTH, and to "Youth" and "Charles H." in No. 6; also "Belphegor," above. The bromide of potass, as ordered to "Aethol" above, should suit your case also. You suffer from no disease, only a slight irritability, which your nervous fears unduly exaggerate. Beware of the quack fraternity.

**A. (Sunderland).**—There should be no difficulty in obtaining the oil from a wholesale druggist. Try a Liverpool firm, such as Raimes & Co.

**AGE 19, LIVERPOOL.**—You cannot increase your height. See our present and future articles on "Physical Exercise," in the "Recreation" columns.

**SCOTSMAN.**—The papers on "The Body and its Structure" are being illustrated. Has this fact escaped your observation? For the removal of scurf, see our papers on the "Hair." That on face and arms proceeds from some weakness of the system. Try a simple tonic. Send details of living, food, habits, &c.

**CIMBRIA.**—Certainly. If you have been ordered to wear glasses, and find they do you good, wear them as ordered. Why let any silly notion about seeming conspicuous affect your health? You cannot be the only person in your neighbourhood who wears glasses.

**NASAL.**—We are afraid little can be done for your loss of the senses you name. Your case is one for the careful study of a specialist in nervous diseases. Such an one alone can properly advise you. There is no cure or remedy which could be recommended in our columns.

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The first Monthly Part just ready, including Nos. 1 to 7, price 1s. 4d.; post-free, 1s. 8d.

## TERMS OF SUBSCRIPTION.

The terms of Annual Subscription to the weekly numbers of HEALTH are as follows:—

	s.	d.
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All subscriptions are payable in advance.

HEALTH will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JUNE 8, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

RESIDENTS in London, and visitors to the metropolis during the ensuing week, will have the opportunity of listening to the course of lectures which the National Health Society has arranged for delivery in connection with the Exhibition at Humphrey's Hall, Knightsbridge. The following is the complete programme of the afternoon lectures, delivered at four o'clock each day of the Exhibition:—June 4, Prof. Corfield, M.D. (Mistakes about Health); June 5, Prof. De Chaumont, F.R.S. (Food); June 6, Pridgen Teale, Esq., F.R.C.S. (Dangers to Health); June 7, Ernest Hart, Esq. (Smokeless Fires and Economical Fuel); June 8, Dr. Wynter Blyth (M.O.H., Marylebone) (Disinfectants); June 9, Prof. Flower, F.R.S. (Fashion and Deformity); June 11, Captain Douglas Galton, C.B., F.R.S. (Steam Heating); June 12, Miss Lückes (Matron London Hospital) (Sick-room Appliances); June 13, Dr. Percy Frankland (Water); June 14, Henry Carr, Esq. (Our Domestic Poisons); June 15, Lewis Day, Esq. (Common-sense House Decorations); June 16, Dr. Andrew Wilson (Editor of HEALTH) (Our Unbidden Guests; A Chat about Food; Parasites, and How to Avoid Them). A second course of similar lectures is to be given at two o'clock on days to be hereafter announced. Amongst the lecturers in this second course are Dr. J. J. Pope, W. Eassie, Esq., C.E., and others.

\* \* \*

OUR articles descriptive of the National Health Society's Exhibition will be commenced in the next number of HEALTH. These papers—specially reported for HEALTH—will deal with the salient features of the Exhibition, and will form a *résumé* of all that is noteworthy in the various classes of exhibits.

\* \* \*

THE National Health Society is doing a wise thing in giving lectures as supplementary means of instructions to that afforded by the Exhibition itself. Hundreds of persons will walk through the Exhibition as they do through museums and botanic gardens, as ignorant at the close of their stroll as when they began. The absence of oral explanation is the one great drawback to the utility

of museums and other educational collections. This objection the lectures of the Health Society will tend to obviate; and we are most hopeful that a large amount of useful information will not only be dispensed in the lecture-room, but will be thereafter practically illustrated in the Exhibition itself. The first instalment of our report of the Exhibition will be found elsewhere.

\* \* \*

THE "Home Hospitals Association for Paying Patients" recently held its fifth meeting. The Duke of Northumberland occupied the chair. Nos. 16 and 17, Fitzroy-square, form a "Home Hospital" of twenty-four beds, and since the opening of the hospital in November last, all the beds have been fully occupied; many patients having daily waited for admission. Applications for admission to the number of 479 were made in 1882, and 139 cases had been admitted. The amount received from paying patients at Fitzroy House in the past year was £2,670. Donations brought this amount up to £5,700. The average stay of each patient was 29 days, and the expenditure was £2,721.

\* \* \*

ANOTHER experiment at Battersea, made by Canon Clarke, and the institution of wards for paying patients at St. Thomas's Home, in connection with the hospital of that name, show the gratifying fact that patients may now command, for a moderate outlay, the advantage of the best surgical and medical skill and the most careful nursing. How great the advantages conferred by this system are, can only be realised by those who have had to endure the discomfort, not to speak of the monotony and expense, of life in lodgings, when undergoing medical or surgical treatment in the metropolis.

\* \* \*

HOSPITAL SUNDAY in London falls this year on next Sunday, June 10. We trust to hear of a full and satisfactory sum being subscribed to our great medical charities, many of which sorely require substantial aid at the present time.

\* \* \*

THE "Day Nurseries Association" of Manchester is doing yeoman service in the care of infant-life. To the Day Nursery at Ancoats, 234 children were admitted during the year, and of total attendances, 2,497 were enrolled. The ages of the children varied from two months to ten years. The children were those of factory-workers, and the small charge of fourpence per head per diem is sufficient to cover expenses. The immense boon such nurseries present to the working mothers of the nation, in conserving the lives of their children, can be readily appreciated by all who know anything of the careless and insanitary fashion in which young children are usually tended whilst the mothers pursue their avocations.

\* \* \*

THE *Lancet* directs the attention of the public to the increase in the sale of "aperient waters" which has of late years taken place. Indiscriminate and careless use of these waters is, of course, to be heartily condemned from a health standpoint. Like most other things, these waters possess their uses and abuses. It is earnestly to be desired that the growth of common health-knowledge would sufficiently advance to enable the public to protect themselves, by an exercise of common sense, against the irrationality of tampering with such preparations. No amount of mere warnings will ever suffice to cure such a habit. It is the



knowledge of common health-laws which is alone effectual in deterring us from the abuse of foods, drinks, and remedies of all kinds.

\* \* \*

IN reply to various critics and correspondents who write respecting our remarks (*HEALTH*, page 105) on the comparative marriages of dark and light-haired women respectively, we may say that Dr. Beddoe (no mean authority in social science) spoke of the dark-haired successes in matrimony as the result of "conjugal selection." Here are some statistics for our friends. Out of a given number of English individuals, 30 were red-haired, 108 fair-haired, 338 light-brown-haired, 807 dark-brown-haired, and 67 black-haired. This fact proves what the great prevalence of dark-haired peoples in the world at large seems to show—namely, that the lighter-haired races, if they are not decreasing, at least cannot boast of the numerical strength of the dark-haired. That the dark-haired peoples have come to the front in the world's history, numerically, and in other ways also, seems clear. The reasons for this numerical strength are probably complex. But, as a rule, we believe, the dark-haired races, like dark-haired individuals—taking the hair as an indication of general constitution—are more wiry and robust than the lighter-haired.

\* \* \*

"THE Britons, Celts, Saxons, Gauls, and Germans, in Cæsar's time," says an author, "were blue-eyed, and had either red or flaxen (yellow) hair. At the present time the Celts have become a dark-haired race, and among the Anglo-Saxons a darker type of hair, and much darker eyes, is the rule."

\* \* \*

OF some 737 women, patients at a certain hospital, 32 per cent. of the fair-haired were single, while 22 per cent. of the dark-brown haired, and only 18 per cent. of the black-haired were spinsters. We believe we are correct in saying that statistics, wherever taken—though certain persons think figures can be made to prove anything—show the ascendancy of dark-haired women in the matrimonial scale.

\* \* \*

A MEDICAL friend raises a curious point in the history of coincidences. He says that in his practice it is very rare for cases of accident to occur solitarily. In proof of this he has sent us details showing that, whilst, for months, no casualty may happen, usually two, if not three, repeatedly occur within a few hours of each other. Thus, a man falls from the mast of a passing ship; that same day, a serious accident occurs in the town within which he is situated. Again, a servant girl crushes her finger in a mangle, and on the same day another maiden presents herself from a totally different family with the same accident. Numerous cases of this kind are given, lending a certain basis of fact to the aphorism, "Misfortunes never come singly."

\* \* \*

THE poets have emphasised this belief: "Ill-fortune seldom comes alone" (*Dryden*); "One woe doth tread upon another's heel, so fast they follow" (*Hamlet*); "When sorrows come, they come not single spies, but in battalions" (*Hamlet*); "When one is past, another care we have; thus woe succeeds a woe, as wave a wave" (*Herrick*); "One sorrow never comes but brings an heir, that may succeed as his inheritor" (*Pericles*). Is there, after all, a law of coincidences deeper than the ordinary experience of mankind has yet fathomed?

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### THE NEED FOR BETTER BURIAL ARRANGEMENTS.

BY S. PHILLIPS DAY.

FROM the earliest times, the minds of thinking men have been occupied in considering the proper mode of disposing of the dead. Some were bent upon the permanent preservation of the departed. Hence the care bestowed upon mummies. Others considered the prompt destruction of the body as the most feasible undertaking. But the method of removing the dead to places where they could not possibly prove a menace or an actual danger to the living, was the oldest of all mortuary arrangements. That Plato was a great sanitary reformer is clear. This is evidenced in his "Dialogues." In the "Twelfth Book of Laws," it is forbidden to bring corpses into the open streets, or to suffer processions of mourners, except before daybreak. It is further directed that the dead should be deposited in places which are not cultivated, that no monuments should be placed over them, and that they should be buried in that "part of the country which is naturally adapted for receiving and concealing them, with as little hurt as possible to the living."

The question comes to this: As the newly-dead must necessarily become decomposed, and their elements distributed among Nature's great reservoirs of material-earth, air, and water, how is this process to be effected so as to facilitate the organic changes, and yet guard against contagious influences arising therefrom? There are modes, as M. Louis Figuier points out in his remarkable work, "The Day After Death," by which decomposition of the lifeless body can be obviated. If placed, for example, at a temperature of 0 deg., putrid fermentation is impossible. It would answer the like purpose should a corpse be placed between two layers of ice. Impregnation with antiseptic substances, so as to effect coagulation of the albumen which forms a portion of the tissues, also preserves from putrefaction. But Nature can bring about this desirable object herself without having recourse to scientific aids. The direct agency of the earth is competent to induce *resolution*, and thus prevent putrefaction. Hence, the earth-to-earth method of sepulture which Mr. Seymour Haden has advocated, and which is adopted at Woking Cemetery alone, is a most excellent reform, and a great sanitary improvement upon the ordinary plan. After all, the use of imperishable coffins—or, indeed, coffins of any sort—is simply an innovation. In the *Reliquiæ Hearnianæ* we read that, "formerly it was usual to be buried in winding-sheets without coffins, and the bodies were laid on biers." And this custom was in vogue about three-score years ago (1724), though, even then, persons of rank were interred in coffins, except they had ordered otherwise. Thomas Neile, of Hart Hall, in Queen Elizabeth's time, is represented in a winding-sheet in Cassington Church. Many persons of distinction, instead of being placed in coffins, were wrapped up in linen or woollen shrouds. Sometimes cases of leather were employed, as in the instances of Sir Thomas Trussell and his lady, founders of Shottesbrook Church and Chantry, in Berks. Among the vestry minutes of St. Helen's, Bishopsgate, is the following (March 5, 1564):—"Item, that none shall be buried within the church *unless the dead corpse is coffined in wood*." Burial in coffins, therefore, seems to have been an early condition of interment in churches, and that such



an order was deemed necessary clearly proves that the existing custom was burial in winding-sheets. This mode of interment is frequently shown in illuminated books of devotion. One illustration is particularly attractive. It is found in the "Horæ B. Mariæ Virginis" (Select MS. 25, 695, B. M. Library), of about the date 1470. The corpse is represented by the side of the grave, entirely nude, reposing upon a large white cloth, in which two female attendants on their knees, in presence of several spectators, are preparing to wrap it up.

Our mortuary system is altogether radically wrong. In London, this is especially the case, where the soil of the cemeteries is unfit for its purposes, and where their dangerous proximity to the town is a standing evil, growing greater and more menacing every day. Solid coffins complete the catalogue of enormities, by which their contents are preserved in a state of unprogressive putrefaction for any number of years. Mr. Haden attributes the use of coffins to "the pretensions which attend the acquisition of wealth without intelligence," when "it was desired to keep the body for days, for the purpose of giving it an ostentatious funeral," and "when time was needed not to honour the dead, but to open the pestilent vault and prepare the 'obsequious' mourning." Medical writers of note have pronounced on the imminent risk incurred by interring the dead in the midst of the living. Dr. James Copland, treating of pestilence, avers, that under such unsanitary influences, a state of the soil is ultimately occasioned, which is productive of noxious emanations and which contaminates the water in the vicinity. "Thus," he remarks, "ancient cities have generated the sources of their own decay, which circumstances have retarded or accelerated, according as these sources have been counteracted or augmented by legislative measures, either of a beneficial or of an injurious tendency."

How far exactly our crass mode of fulfilling the "last rites" affects the health and life of the denizens of the Metropolis, it is difficult to decide. That it is prejudicial, however, is undeniable. Englishmen, it is alleged, are addicted to games of chance; while there is a manifest charm in taking the odds against the risk. But whatever hazard an individual may feel justified in running, an entire community should be more heedful of their social obligations. In certain matters we are craving for effective reforms, yet we cling tenaciously and unreasoningly to pernicious usages, which entail serious consequences. We look forward, hopefully, to the time when improved funeral arrangements will take the place of the present clumsy forms observed in the burial of the dead, and when, with some necessary modifications, we shall return to the early and natural mode of committing earth to earth, as Mother Nature herself intended.

## THE "GERM THEORY" OF DISEASE.

### VI.

THE proof that the *Bacillus* is the true and direct cause of the splenic fever of cattle may, therefore, be regarded as having been fully proved by Pasteur and others. It may be mentioned at this stage of our inquiries, that, along with Touissant, of Toulouse, Pasteur investigated the details of a singular affection which was found to cause the speedy death of fowls in France and Switzerland. This malady is called "fowl-cholera." It is eminently infectious, being propagated with rapidity and certainty from the affected to healthy birds. In our illustration, the microscopic appearances seen in the investigation of "fowl cholera" are shown. Here another species of *bacillus* is found to

propagate itself within the blood of the infected birds, as the *bacillus* of splenic fever grows and multiplies within the ox and sheep. At a given stage, the bird succumbs to the virulence of the disorder; and if the bacilli (represented in the figure) be transferred to the blood of a healthy bird, the latter in its turn exhibits all the symptoms of the malady.

Facts like these invariably direct the minds of men towards a search for the remedy best calculated to avert the plagues which the humble "germs" can thus inflict upon the animal tribes. It is in the patient working out of the difficult problems such a topic presents to view, that we witness the untiring industry, zeal, and genius of Pasteur. It was shown that special localities became haunted from time to time by this plague. Such a fact impressed Pasteur that some defined cause, lying dormant for long periods, but now and then fanned by circumstances into activity, lay at the root of the new outbreaks. That cause, reasoning from the experimental side, could only be represented by bacilli or their germs. Deep in the soil of fields, the carcasses of infected animals had been buried ten years prior to Pasteur's appearance on the scene of infection. Yet overhead, the disease was wont to appear, as if its very shadow hovered in the air. If the poison had been buried below with the infected carcasses, might it not ascend to the upper soil and air? If so, what was the medium which bore it through the intervening soil? The answer was found in the *earth-worms*; for, collecting worms from the pasture-lands, Pasteur made an extract of the contents of their digestive



The Bacillus of Fowl-Cholera (magnified).

systems. Inoculating rabbits and guinea-pigs with this extract, he found that severe splenic fever was developed in these animals. The source of the cattle-infection was thus made clear. The worms, laden with the bacilli derived from the buried animals, brought the infection to the light of day; and the cattle, feeding on the herbage, amidst which the worm-dejections were cast, became thus infected from the carcasses of their dead and buried predecessors.

So far the source of the mysterious outbreaks was made plain; just as it was found by Dr. Burdon Sanderson that brewers' grains, infected with bacilli, and used to feed cattle, had spread the disease far and wide at home. The next step consisted in the institution of an inquiry regarding the means of prevention or cure. The idea that the



power and potency of animal poisons can be modified, forms the key-note of some of the most important researches which mankind has yet seen. As the apples we eat are the "modified" descendants of sour and small ancestors, so it was taken for granted that modification of bacilli, in another and opposite direction, was possible. The method employed was that of the gardener, namely, "cultivation." Thus, bacilli or other germs were introduced into the blood of animals of different kinds from those liable to the original disease. From one animal to another, the products of this "sowing" of germs were conducted, and thus the "cultivation" proceeded. Again, the bacilli were "cultivated" in various fluids which were found to nourish them. Meat-juice, chicken-broth, the serum, or fluid part of the blood, the humour of the ox's eye, &c., were thus employed.

The results of such experiments are very astonishing. After two months' culture the bacilli seem to be as potent in their poisoning powers as when originally taken from the infected animal. Cultivated for three or four months, they apparently lose their original virulence; for animals inoculated with bacilli of this age, take only a mild form of splenic fever, and usually recover therefrom. After eight months' culture, the disease produced by bacilli thus modified, is of the mildest type, and the animals are but little disturbed thereby.

As an offset to these results we find, however, that culture of another kind may restore or even exaggerate the poisonous powers of the bacilli. For, on inoculating with mild bacilli a new-born guinea-pig, Pasteur found that the animal died. Its blood, being used to inoculate an older animal, and the process being repeated several times, a form of bacillus of the most virulent nature can be thus obtained. Cultivation of one kind modifies these "germs" in one direction—that of mildness; culture of another kind increases and intensifies all their fatal powers.

The practical outcome of these researches is not difficult to discover. If inoculation of the sheep or ox with mild and cultivated bacilli serves to protect it—after the subsequent mild attack of splenic fever—from all subsequent attacks, the protective value of such inoculation must, practically, eradicate the fatal tendency of the disease. Oxen, inoculated with bacilli cultivated from guinea-pigs, could not be infected with splenic fever. Sheep and dogs, inoculated from bacilli cultivated in fluids as already described, were similarly protected. Chickens, inoculated with cultivated virus, were proved to be entirely free from any tendency to infection.

A convincing proof of the value of these discoveries was afforded in May, 1881. Of 50 sheep placed at his disposal, Pasteur "vaccinated" 25 with mild virus on May 3, repeating the operation a fortnight later. All the sheep were slightly affected with fever, but completely recovered. On May 31, the entire 50 sheep were infected with strong and potent poison, obtained from a fever-stricken animal. Pasteur predicted that on the following day, the 25 sheep which had been vaccinated for the first time would be dead, whilst the 25 "protected" and previously inoculated animals, would be alive and well. Next day (June 1), the result was as follows:—By 2 P.M., 23 of the "unprotected" sheep were dead; and by four o'clock, the two survivors were also dead. The 25 which had been inoculated early in the month, on the other hand, were feeding undisturbed and well; only one, which had had a double dose of the poison on the previous day, having shown slight illness, which lasted for a few hours only. Thus into the hands of agriculturists, Pasteur has been enabled to place a remedy for splenic fever, as in the case of the silk-growers, he brought prosperity once more to

their doors. Such services to humanity are beyond mere pecuniary reward. They constitute a life-work, which should receive ardent reverence and admiration, as the truest meed of praise we can bestow.

## HEALTH ITEMS.

### A POPULAR FALLACY.

By W. MATTIEU WILLIAMS, F.C.S., &c.

ON page 45 of HEALTH is an extract from the *American Sanitarian*, in which is enumerated a number of poisonous adulterations. Among them is included "tea containing a bloom of black-lead," the writer evidently believing that "black-lead" is lead, that is, black, as the popular name indicates, and that of "plumbago" seems to confirm. The fact is, that this substance, properly named "graphite," contains no lead at all; and a "lead" pencil is not a leaden pencil, the so-called plumbago, or black-lead, being one of the forms of carbon; the diamond, and soot, or lamp-black, being others.

The bloom on tea, when produced by this substance, is absolutely harmless, being insoluble in the infusion; and even if we were in the habit of eating the tea-leaves, the plumbago bloom would merely increase to a very small extent the quantity of carbon consumed, seeing that the chief constituent of the leaf itself is this same carbon, though in another form.

The false name was probably suggested by the fact that, if metallic lead be rubbed on paper or other similar surface, it leaves a streak, and graphite does the same, but much more decidedly. This is merely due to the fact that the metal-lead and the mineral-graphite are both softer than the paper, and therefore the paper files off a little of their substance and holds it upon itself.

Mineralogists, especially those belonging to the school of which my old teacher, Professor Jamieson, was the last surviving example, carried with them in their excursions a set of test substances to measure hardness by means of "streak." If the substance to be tested made a scratch on the trial surface, it was harder; if it left some of itself behind, it was softer; if neither, it was equal. It is curious that the two extremes of this Wernerian scale of hardness were graphite and the diamond—two forms of the same element. Thus a lover of paradox might ask "Which is the softest of all natural solids?" and reply, "Carbon"; then, "Which is the hardest of all natural solids?" and still reply, "Carbon."

CHINOLINE IN DIPHTHERIA.—Dr. Otto Seifert has used the following as a topical remedy in diphtheria:—

Chinoline,	gr. xv.
Distilled water,	℥j.
Alcohol,	℥j.
Oil of peppermint,	gtt. ij. M.

He uses it as a gargle, and also applies by means of a brush or swab a solution of equal parts of water and alcohol with five parts of pure chinoline in solution. He thinks that it loosens the membrane in from twelve to twenty-four hours, and that the glandular swellings subside and the temperature is reduced more quickly than under other treatment. Chinoline ( $C_9H_7N$ ) may be prepared from various substances. It is a transparent, colourless, mobile oil. It has strong refracting properties. It has an odour like that of phosphorous and of hydrocyanic acid. It is very sparingly soluble in cold water, rather more in hot water, and mixes freely with alcohol, ether, and oils.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### IX.—THE HAIR AND ITS TREATMENT.

BY DR. ANDREW WILSON.

PREMATURE greyness of the hair is well known to follow many diseases, and especially those of a mental kind. There is the strongest possible analogy between the sudden greyness of the hair appearing as the result of strong emotion and that more gradual greyness which we see following mental trouble and nervous diseases. Extreme application to study has been followed by the development of greyness, which disappeared on the student taking rest and acquiring a more robust state of health. Captain Markham noticed that the hair on the faces of those of his crew who were long absent from their ship in the cold of the Arctic Circle became grey, or even white. The natural hue of the hair returned in three or four weeks. It is highly probable that the intense cold in such a case possessed a distinct effect on the nourishment of the hair, through its action on the skin-circulation. We certainly know that hair grows faster in warm than in cold weather; and that extreme cold should check the growth and alter the natural hue of the hair is, therefore, by no means an unnatural or unusual occurrence. Physicians note that after severe attacks of neuralgia the hair of the scalp nearest the affected region exhibits greyness, which disappears on the cause being removed. Sir James Paget speaks of one case in which a patient, the subject of severe nervous headaches, was accustomed, on the day succeeding the attack, to find patches of greyness in the hair; the normal colour being, however, restored in a few days.

Cases of greyness of a premature kind will usually be found to depend upon some disorganisation of the system which medical care and attention to the general health will cure. It is to be borne in mind that, just as bad teeth may be hereditary gifts, so premature greyness and baldness also "run in the blood," to use the familiar phrase. In such cases it may be impossible to counteract this tendency. But where the means are being taken to restore the health in cases of sudden or premature greyness of hair, Dr. Leonard recommends the following application:—Cocanut oil, 2 ounces; tincture of nux vomica, 3 drachms; bay rum, 1 ounce; and oil of bergamot, 20 drops. Washing with yolk of egg is also highly commended in such cases.

Of the hair-troubles, which cause concern to civilised people, baldness—or *alopecia*, as it is technically named—is perhaps the most common. The occurrence of baldness has been noticed by very ancient writers, and has been almost invariably regarded as a sign of physical weakness, if not of actual disease. Baldness and leprosy were thus associated together; and as early as 456 B.C., the Greek writers speak of this affection. Amongst the curiosities of the hair must be ranked bald or hairless individuals, who present contrasts to the hairy races already alluded to. As a rule, ordinary baldness is much more commonly seen in the light-haired, than in those who possess dark-hair. The hair begins to come out readily on being combed or brushed. In the male sex, the cause is either bad health, nervous worry, or actual disease; whilst in women, the falling out of the hair may be due to the above causes, or, in addition, to abuses in dressing it; and to such malpractices, curling and crimping it tightly, the

injurious effect of curling-irons, and the use of hair-dyes, are the most common.

The treatment of ordinary baldness is divided into constitutional or general treatment, and specific or local remedies. The first is a matter for the medical man, whose efforts to counteract tendency to disease may be sufficient to arrest the baldness. Supposing that there is persistent daily loss of hair, the following remedy, recommended by Pincus, may be tried:—Fifteen grains bicarbonate of soda should be dissolved in an ounce of water, and a little of this solution is to be well rubbed into the scalp daily. This treatment, Pincus recommends, should be persisted in day by day, as excellent results follow its continued application. Sir Erasmus Wilson says that a lotion composed of one ounce each of spirits of hartshorn, chloroform, and sweet almond oil, added to five ounces of spirits of rosemary, and well rubbed into the roots of the hair after brushing is effective. If this lotion should prove too strong, it may be used half-strength, being diluted in the later case with Eau de Cologne. Of other lotions, which are to be recommended in cases of baldness and hair-falling, the following are examples:—(1) Tincture of Spanish flies, two drachms; tincture of nux vomica, half an ounce; tincture of capsicum, one drachm; castor oil, one and a-half ounces; Eau de Cologne, two ounces. Apply night and morning with a sponge to the roots of the hair after brushing. (2) Spirit mindererus, two ounces; carbonate of ammonia, half-a-drachm; glycerine, half-an-ounce; castor oil, half-an-ounce; bay rum, five ounces. Directions as in preceding case.

The foregoing remedies will be found serviceable in the treatment of commencing general baldness, where the whole of the scalp appears to be parting with its hairs. The bicarbonate of soda solution, as recommended by Pincus, may possess a slight tendency to lighten the colour of the hair. But if the hair is carefully dried, after using this lotion, the colour will not alter materially; and any change of hue which actually occurs will certainly be inconsiderable in extent, and will rapidly disappear. *Electricity* has been recommended by some authorities as a remedy for general baldness, one of the poles of the battery being placed at the nape of the neck. But in using this remedy, we ought to be certain, above all things, that we are really using electricity. Such applications as "electric brushes" and the like, do not produce electricity, and are of no service whatever. A Pulvermacher's "chain band," which is a truly electrical and scientific apparatus, is a handy means of applying electricity where this agent is employed in the cases we have described.

(To be continued.)

PERSONAL health is as important to the community as to the individual. A nation of sick persons or of infirm invalids would quickly cease to be a nation at all. It may seem superfluous even to assert so obvious and trite a fact, but it has a corollary not less true and not less obvious, the importance of which is far from being practically realised. All sickness and all infirmity entail a national loss, actual and definite, in consequence of which the nation is not only weaker, but is also poorer. We are so accustomed to the presence of disease that we imperfectly appreciate its influence on national prosperity, although we realise to the full its blight on the individual life. Pity stirs benevolence to acts of charity for the relief of suffering, and alarm dispels for a moment the apathy which hinders sanitary progress; but compassion is a limited, and fear an evanescent, motive, compared with the self-interest which, whatever ought to be, unquestionably is the ruling force of public action.



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. IX.—THE SKELETON.—(Continued.)

BY A. J. MANSON.

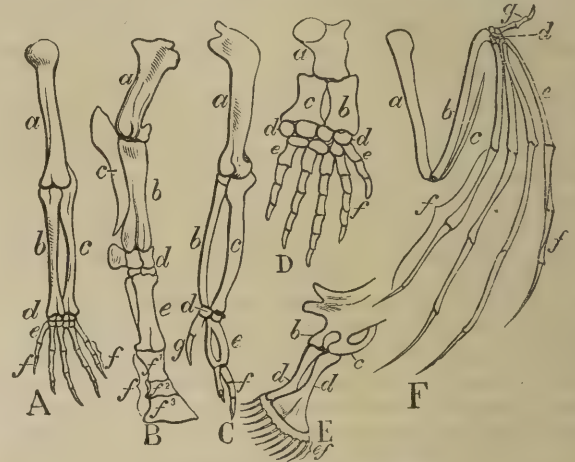
LEAVING the study of the *Skull* to a later period in our examination of the bony framework, we now pass to the *limbs*. In all *vertebrated* or backboned animals, the limbs are invariably developed in pairs. Again, they are supported by an internal bony framework, which the muscles clothe, and to which they are attached. Never more than four limbs are developed in the great division of the animal world to which man belongs; although sometimes, as in snakes, limbs may be altogether wanting (some snakes have rudimentary hind limbs), whilst, as in whales, one pair only may be developed. There is a close similarity to be traced between the fore and hind limbs in man and other animals, and it is well, perhaps, that at the outset of our studies we should make clear how the limbs of all vertebrate animals are built up on a common plan. The bodies of these animals, as we shall hereafter see, exhibit a similar likeness; and, at first, it would thus seem as though, from this common type or plan, all the varied forms of the "backboned" race, from the fish to man, had been variously and curiously developed.

In the arm of man (A in the Fig.) we find, firstly, a single bone forming the upper arm bone. This is the *humerus* (a). To this bone succeed the bones (b, c), named the *radius* and *ulna* respectively. Then succeeds the wrist, or *carpus* (d), composed, in man, of eight small bones, arranged in two rows of four bones each. The palm of the hand comes next in order; this region (e), consisting of five bones—one for each finger—being known as the *metacarpus*. The *digits* or fingers (f) form the extremity of the limb. In each finger, we find three small bones named *phalanges*; the thumb, or first finger, however, possessing two "phalanges" only. There are thus fourteen of these small bones in the fingers altogether; and the same remark holds good of the toes.

If, now, we compare the arm of man with the forelimb, say, of the bat (Fig. F), which, in point of structure is not by any means far removed from the human order, we shall be able to trace a very decided unity of type in the two limbs. The bat's forelimb, which forms, as every one knows, the chief support of the wing, consists firstly of a bone (a) which is evidently a *humerus*. Two bones form the bat's forearm. These are the *radius* (b) and the *ulna* (c), but the latter bone is small and rudimentary in the bat. The *wrist* (d) is clearly seen in the flying quadruped, as also is the palm (e). There are five fingers, as in man, but with the exception of the thumb (g), which is of ordinary size, the fingers (f) are enormously extended for the support of the wing-membrane. That the bat's wing or forelimb is constructed on the same type as the arm of man, there admits of no doubt whatever.

In the paddle of the whale (Fig. D) we may see how the same type seen in man's arm assumes a modification of a different nature. The bones are much shortened and compressed in the whale's fore-limb, so as to adapt it for forming an efficient swimming-paddle. But the humerus (a), the radius and ulna (b, c), the wrist (d), palm (e), and fingers (f) are clearly discernable. The bones of the fingers have, however, increased in number over those seen in man and the bat. Otherwise the type is precisely the

same. The fore-leg of the horse (Fig. B) may next be appealed to. Here we have to deal with striking alteration, but, despite the change, the common type seen in man, bat, and whale again crops out. The horse has a short humerus (a); its radius (b) is large, but its ulna (c) is small. The wrist (d) is clearly seen, and when the horse "breaks his knee," it thus becomes clear the injury is really done to his "wrist." Below the wrist, the horse's foreleg exhibits an interesting modification. The animal possesses three fingers. Two of these are, however, small, and concealed beneath the skin.



Skeletons of various fore-limbs.

It is the third or middle finger of the horse's hand which is alone well developed, and on the "hoof," or large nail, of which, the animal walks. The palm bone of this third finger is figured at e; and we see the three joints which this finger possesses, at f<sup>1</sup>, f<sup>2</sup>, and f<sup>3</sup> respectively. Thus, when we see that in the horse two fingers (the thumb and little finger) have completely disappeared, that two fingers (the second and fourth) have dwindled down to mere fragments, and that it is the third or middle finger which has come to the front and on which the animal walks, we find that, after all, the type of limb is unchanged from that seen in man and other vertebrates.

In the bird's wing (Fig. C) the alteration from the type is conducted on different lines. The humerus (a), large ulna (c), and small radius (b) are clearly seen. But the wrist (d) is very rudimentary, seeing that a bird does not require a movable joint in this situation; and there is a distinct thumb (g), and other two fingers (e, f), united more or less completely together. In the breast fin of the fish (Fig. E) we see a faint approach to the type of limb found in higher animals, although the parts of the fish forelimb by no means exactly correspond with those of higher limbs. The lower type of the fish forbids us to expect what we certainly see in the frog, namely, the exact unity of structure which prevails in the plan of vertebrate bodies at large.

This short study in natural history will be found to possess a distinct use, as an introduction to the more perfect study of human limbs. To this latter topic we shall return in our next paper.

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—Ohan Times.

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## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

#### NO. IX.—DISINFECTION AND DISINFECTANTS.

(Continued.)

THE *practical application* of disinfectants is the topic which now awaits our consideration. We have already dealt with those plain preliminary precautions which should be undertaken by the responsible head of the house in all cases of infectious disease. Thus we must in the first case pursue a policy of *isolation and separation*. The patient must be separated from the rest of the household, and we must, secondly, place a barrier of disinfection between the patient and all his healthy neighbours, whether they are located in the same house or from part of the outside public. Then, thirdly, we must see that the patient's clothes, and every article used in the sick-room, are thoroughly disinfected. Infection is most commonly spread through carelessness in treating the clothes, and also the excretions of fever patients. The excretions—as in the case of typhoid fever and cholera—allowed to escape into drains or into the soil without being disinfected, spread abroad these diseases. The germs gain access to drinking-water, or may, through water, gain access to milk; or may even in a dried state be dissipated by the winds. Hence, it is a piece of culpable negligence and a gross violation of all health laws, to neglect practical disinfection at any point of a fever-patient's career. No words are too strong for the condemnation of the carelessness which avoids disinfection, or for that still worse ignorance which (as in a case just reported from Sunderland), shakes a fever-patient's bedding out of a window, and sends broadcast the seeds of disease. There is yet a crying need for the education of the people in the rules of sanitary science; and in no department of this science is there greater safety for the people, than in that department which deals with disease-prevention through efficient disinfection.

We may begin these practical and concluding details by dealing first with the disinfection of the fever-patient's room. Primarily—to repeat our former advice—everything in the way of curtains, bed-hangings, carpets, &c., should be removed from the room. These only harbour disease-germs, and are of no utility in so far as the patient is concerned. The *accurate ventilation* of the room must be primarily attended to. Attention to this rule limits the risk of infection, and we have seen that the oxygen gas of the atmosphere is nature's own disinfectant. Outside the patient's room, a common practice is that of hanging a sheet, which is frequently saturated with a strong solution of "Sanitas" fluid, carbolic acid, Condyl's Fluid, or Chloralum. This practice is decidedly useful; the saturated sheet serving literally as a barrier to the outward passage of disease germs. Another useful form of disinfecting apparatus consists of two uprights, connected above by a roller (similar to that used in the kitchen towel); the uprights rising from a shallow wooden tub or tray about four or six inches deep, and having another roller connecting them below. On the two rollers a piece of sheeting is placed, so that it is practically endless, and whilst one side is rolled down into the tub, the other side rolls upwards. If the tub is filled with any disinfect-

ing solution—Condyl, Sanitas, or Chloralum, etc.—the endless roller-sheet is made to pass through the solution, and comes up wetted therewith. When dry, it is once more rolled down into the fluid, and freshly wetted. As the solution can be renewed whenever it becomes weak, this form of disinfecting barrier, placed outside a patient's room, is found to be of serviceable and handy nature.

Directions for disinfecting the room itself, by means of *sulphurous acid gas* have already been given. The wood-work should be thoroughly washed with soft soap and water, to which carbolic acid (1 pint to 3 or 4 gallons of water) has been added. The paper should be removed from the walls and burnt. If whitewashed, the walls must be scraped and washed with hot lime, to which carbolic acid may be added, after or before the fumigation with sulphur. As regards bedding, carpets, or any other articles of furniture which have been in use in the room, these may be conveyed, after being washed with carbolic solution, to a special laundry,\* where provision is made for disinfection after fever. But, as in the case of body-clothes, the rule should be made absolute that no infected articles should in any case be sent to any *ordinary laundry*. Carelessness in this respect is highly culpable. Special laundries exist for disinfection and the purification of fever-clothing, and the same remark applies to establishments wherein infected carpets and other articles are rendered pure through hot air disinfection.

What may and should be done in the household with the clothing and bedding of fever patients, is readily enough remembered and described. When the body-clothes are changed, they should pass *at once* from the patient's body to a tub of water in which a plentiful supply of "Sanitas," "Condyl," or Chloralum has been placed. When Condyl's Fluid is used, the articles must be rinsed out thereafter in cold water to avoid staining with the fluid, prior to the clothes being boiled. Clothes may be disinfected with sulphurous acid gas, as already described, but this gas is apt to bleach certain fabrics.

We must not omit to bear in mind the necessity where fever exists for securing the disinfection of the closets and drains of the infected house. The closets of the house should receive particular attention during the presence of fever. Thus carbolic acid, Condyl's Fluid, or Chloralum, &c., should be placed in the closet-pans, and a supply of some disinfectant be renewed continually in the flush-water which fills the pan. The drains themselves should be daily flushed by a plentiful supply of water, in addition.

Amongst the final hints which should be borne in mind in the safe conduct of a case of fever, are those which direct that the nurse in attendance should wear cotton garments, and eschew woollen materials, as likely to retain infection. The hands of the nurse should be washed with carbolic soap after attending to the patient, and it is the bounden duty of the nurse to see that all glasses, plates, &c., are disinfected, and thereafter washed in hot water, after use by the sick person. It is well also to bear in mind, that articles of food, and milk especially, should never be allowed to remain in the patient's room, and should *on no account be carried away from that apartment amongst the healthy*. All articles of food not used by the patient should be destroyed, after having first been disinfected. Lastly, nurses should use pieces of rag (which should be burnt after use) instead of handkerchiefs. Much danger of infection is avoided by attendance to this latter rule.

\* Messrs. Armfield & Sons, 15, Lower Belgrave-street, London, W., and Victoria Bridge-road, S.W., disinfect and clean articles after fever, &c., by means of special apparatus.



## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### HOW TO BUILD HEALTHY HOMES.

(From the *American Sanitarian*.)

THE first suggestion is to build houses upon arches, particularly in cities situated in low, flat grounds upon navigable waters, and also in the country where the soil is alluvial.

The second suggestion is to build a certain class of houses in our cities with flat roofs, with or without a clear story beneath them, and that some of these roofs be improved as gardens. The houses particularly designated in this certain class are back buildings, low warehouses, small manufactories, stables, &c. What I shall say concerning these suggestions will have reference both to public health and individual comfort.

Man has at least the department of building under his own control. He must take the earth as he finds it; but one style of building may be more healthy, useful, or convenient in one situation than another.

In the beginning of this paper, what I will request of you is, to divest your minds, as far as you can, of any bias in favour of the present or the old-fashioned modes of building houses in cities, or even in the country. You all know the effect of early prejudices, the tyranny of fashion, and the difficulty of introducing any reform. The suggestions I have made are radical changes from the present style of building; and in order to judge of the merits of these proposed alterations, will require from you entire freedom from prejudice. A brief description of the kind of buildings which are proposed will first be given, in order to show the principles involved, and afterwards a few of the advantages expected to be derived from this mode of construction.

In the city in which I live, there is a building which was erected fifteen years ago, and as it is, in part, an illustration of the suggestions which have been made a short description of it may serve the purpose of a more extended explanation. The building is 25 ft. front by 40 in depth, and is erected on a lot 140 ft. deep, in the rear of a dwelling. The first 13 ft. of its height, which may represent the suggested arch, is used, for the convenience of its owner, as a stable; and above this stable, the next 12 ft. in height, is a clear story used as a gymnasium; and these two stories are surmounted by a large basin also 25 by 40 ft., and which is 3½ ft. in depth. This basin, being water-tight, and properly filled with earth, is used as a garden or common sitting or pleasure place for the family in good weather, having grass, plants, and flowers growing upon it. This garden communicates with the second floor of the dwelling proper, and is twenty-eight feet above the pavement. The manner of constructing this building was simple. It is built for the most part with large timbers, framed in no uncommon way; but the garden is supported by large beams and truss-beams, in order to sustain the heavy weight of earth. The floor and sides of the basin were made of inch and a half flooring boards, the sides having a flare of a few inches. The sides and floor were then covered with the "tar-roofing," and upon this, also both sides and floor, asphalt roofing blocks made for the purpose and cemented together with the usual hot cement, were laid. A layer of clay, six inches thick, was put upon these asphalt blocks. Three inches of the clay, being tem-

pered, was rolled into flat cakes, and the other three inches was well puddled clay and laid on with shovels. When the clay was dry and the cracks secured, water was let into the basin to test the water-tightness of its construction. When this was found perfect, six inches of gravel was thrown into the bottom of the basin. Upon this, earth of a good quality was thrown, leaving a rim of about three inches at the top of the basin. The gravel gives a system of underground drainage, through two outlets near one end of the garden, towards which there is a fall of a few inches. This is a drainage similar to that of a "blind-ditch" in a meadow. The surface drainage is secured by the rim, which prevents overflow, and two down spouts, towards which upon the sward there is also a fall of a few inches. The temperature of the air on the top of this garden is from two to five degrees lower, in hot weather than that about three feet from the pavement. The air is fresher as well as cooler, and more invigorating than that nearer the pavement, which is heated by radiation from the bricks, and would be tainted in many situations by emanations from the streets and gutters.

In all compactly built towns, but particularly in our larger western and southern cities, the air on the plane of the second or third stories of ordinary dwellings is more agreeable and healthy than that in the basement or ground floors. Where yellow fever prevails it is recommended by physicians to sleep and live, as much as possible, in elevated apartments. The air held within an area of crowded buildings being obstructed as to its natural average motion by walls and fences, is prevented from a free ventilation, and is stagnated in streets, alleys, yards, and courts, to every degree of closeness. There is no chance for a free surface ventilation, and during close weather, in such situations, for many days at a time, the air which is retained is but little changed.

It is to be regretted that our knowledge concerning the emanation of gases and air from the crust of the earth is not more certain. That the earth does perform a function somewhat analogous to human respiration is most probable; that is, the air penetrates the soil, and water to a certain depth, is there changed, as in the animal lungs, and is again exhaled or expired through the pores of the earth or water. How much the expired air is changed in different situations is always a subject for scientific inquiry. It is reasonable to suppose that such atmospheric changes may be excited into action by laws similar to those which govern the motions of the air at different temperatures. Whatever may be the causes which originate, or the laws which govern, terrene emanations, their existence cannot be questioned. In alluvial soils, cellars are damper and more unpleasant than in primal formations, and obtain and retain an air which gives life to moulds and various air plants.

Now, instead of springing the houses out of the ground in such situations by digging cellars, and continuing the communications with the houses above by solid walls, it is suggested to build arches as the foundations for the houses, so that a stratum of air may be interposed between the interior of the dwellings and the earth.

What advantages may be expected by such a change from the present style of building? As already said, surface ventilation of the air would be one of prominent advantage. Cleanliness, surface drainage, convenience in city life, an abatement of certain nuisances, and consequent increased healthfulness, would be other advantages. It is not necessary to enumerate before this convention all the machinery which can now be so easily procured for carrying out the details of this desirable object. It is well known that such appliances are now at hand. Sub-



stitutes for cellars are being invented and put on the market; manufactories for asphalts and artificial stone are being established; convenient receptacles for holding the refuse and effete matters of a family are already made, so that such refuse can be readily transported to a distance without odour. Indeed, every detail for carrying out the conveniences for this principle of arch-building can now be obtained at moderate expense, for even the largest cities.

(To be continued.)

**COLD DRINKS.—A SEASONABLE ADVICE.**—Sufferers from certain common forms of indigestion, says the *Lancet*, forget the immediate effect of loading the stomach with cold drinks. If hot drinks are sometimes debilitating to the organ of digestion, cold drinks are certainly not always bracing, but, on the contrary, are often depressing. It is especially desirable to remember this fact at the present season, when the weather is even more than commonly lowering to the nervous tone of the organism. Even though the fluid taken may be what is called stimulating, the consequence of its being cold is to chill the gastric organ and depress the nerve centres whence it derives its supply of nervous force. The peculiar form of indigestion just not very prevalent, in which food is retained an unreasonable time in the stomach, with the result of flatulence, and it may be of irritative reaction on the part of the nerves of the viscus, and neuralgic pain as a consequence, is in a large proportion of instances the direct effect of persistent chilling of the gastric organ by copious draughts of cold drink. It is recognised that cold drinks are dangerous in very hot weather, acting as irritants, but it is not, apparently, understood that the mischief they do as depressants may be even greater, and that this effect is to be especially dreaded when the weather is itself depressing by cheerless or unseasonable cold.

**THE FUTURE OF HEALTH.**—What future awaits us, who can tell? But one thing is clear, that there are possibilities looming before us which even the careless cannot afford to neglect. The religion of the future will very largely, I think, be a religion of health. It will be a religion wherein the causes of pauperism and crime will be known and discussed, and alleviated or banished. Its higher development will have—

“—————lent  
The pulse of hope to discontent.”

It will aim at making rational minds through well-nourished and healthy bodies. It will elevate the race through the development of health with a power comparable to that of an Archimedean lever, that literally can move a world. Best of all, this religion, which founds itself on an appreciation of the physical wants and requirements of man's nature, will serve as the most efficient corrective to the false ideals upon which men to-day lavish the service of a life. It will teach mankind that in healthy frames, in pure affections, and in the enjoyment of a rational existence, there are pleasures beyond those dreamt of by ancient seer or religious devotee. It will make this earth the happy home of a contented race, a fit abode for the life that ought to be all happiness and health. It will make the world a scene which, at the close of a well-spent life, man may leave without a pang of remorse, surrendering his days to the “everlasting arms,” in the fearless knowledge of a wisely-used existence, without so much as the shadow of a tear.

## Recreation and Health

“Health is the vital principle of bliss,  
And Exercise of health.”—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

#### NO. II.—THE SEA AS A HEALTH-RESTORER.

THE sea has always stood paramount and alone as a restorer of health. There is a something in the bare idea of sea air and sea breezes, which causes us to place implicit confidence in the effects of a seaside residence as a means towards ensuring healthy living, and towards making us well when we have suffered from the effects of serious illness. As a mere tonic of jaded nerves and worried brains, the sea stands unrivalled, whilst in certain diseases—as, for example, in glandular enlargements, scrofula, and the like—sea air and sea-bathing are known to possess beneficial effects. We may firstly look at the beneficial effects of sea water and of sea air; and secondly, at the uses of sea-voyaging, now so largely commended, both as a means of cure and as a fashion in which a holiday may, for many persons, be profitably spent.

Sea water and sea air are, firstly, of more equable temperature than inland water and inland air respectively. There is less tendency by the sea to those sudden changes of temperature to which the inland-dweller is subject. Sea water itself is generally cooler in summer and warmer in winter than the atmosphere around. It loses heat less rapidly than the air, and it further gives off heat to the air in autumn and winter, thus tending to produce a mildness of climate on the coasts. The actual temperature of the sea varies greatly. On the southern English coasts and in the north of France and Germany, the temperature varies from 56° Fahr. to 70° or 72° Fahr. In some localities, as for example, in the Mediterranean and Bay of Biscay, the temperature may be higher. An analysis of sea water shows us that it holds in solution variable quantities of mineral matters. Any sea or estuary receiving a large quantity of fresh water will not be so salt as the open ocean. The Baltic Sea, for example, contains comparatively little salt, chemically known as *chloride of sodium*. The water of the Channel taken off Brighton has been thus analysed:—

Water .....	964.744
Salt .....	27.059
Chloride of magnesium .....	3.666
Chloride of potass .....	0.765
Bromide of magnesium .....	0.029
(Epsom salts) Sulphate of magnesia.....	2.295
Sulphate of lime .....	1.407
Carbonate of lime .....	0.033

Mr. Gosse, the naturalist, in his “Handbook to the Marine Aquarium,” tells us that he successfully kept sea-animals in artificial sea-water compounded as follows:—

Common table salt .....	3½ ounces	} Avoirdupois
Epsom salts .....	¼ ounce	
Chloride of magnesium .....	200 grains	} Troy.
Chloride of potass .....	40	

To these minerals Mr. Gosse added four quarts of water, so that his solution was brought to a density in which “a specific gravity bubble 1026 would just sink in it.” For at least two years, at the date of his writing, Mr. Gosse found his solution perfectly adapted for the support of the



marine life he placed within its limits. It is thus possible to imitate very exactly the composition of the water of the ocean. It is, however, beyond our power to bring to our doors, in this way, the beneficial effects of the sea-air.

Speaking, generally, the sea-air derives its beneficial qualities, firstly, from its purity, secondly, from the *ozone* and *iodine* it contains; and thirdly, from its equable temperature. The presence of the substance known as *ozone*, is, in itself, a test of the purity of an atmosphere. Hence, we may consider the nature of this curious substance in the first instance. *Ozone* is an altered or condensed form of the oxygen gas, which forms about one-third of the air we breathe, and which is the great supporter of animal life. It is produced when electrical discharges are sent through pure oxygen; and the peculiar smell present when an electrical machine is worked, is due to the presence of *ozone*. A test for *ozone* is found in a piece of paper which has been dipped in a solution of iodide of potass and starch paste. *Ozone* turns this paper blue, because the iodine is set free, and a blue compound of iodine and starch (blue iodide of starch) formed. *Ozone* is also formed when phosphorus is allowed to come in contact with moist air; the *ozone* being one and a half times as heavy as oxygen. As regards the action of *ozone*—which is also found in mountain air—it may be said that it is a stimulant to the functions at large. In increased quantity, *ozone* gives rise to irritation, especially of the breathing organs. The small quantity of this substance which we obtain at the seaside is unquestionably beneficial to all who are in want of health, or who are likely, even when well, to derive benefit from the sea-breezes.

The air of the sea, as a rule, contains more moisture than that of inland situations. Constant evaporation is taking place from the sea, and the relations between the heat of the sea and that of the atmosphere already pointed out, also aid in the maintenance of a more equable temperature than is found inland. It seems highly probable that owing to the greater density of the sea atmosphere, we find a greater amount of oxygen in a given volume of sea-air than in an equal volume of land-air; whilst it should not be overlooked that the air of the sea is in a greater agitation than that of rural districts. Popularly summed up according to the ideas of Braun, the sea-air promotes in the human body an increased demand for food, an increase of body-weight, and a general stimulation of those processes whereby we get rid of waste—processes physiologically and collectively known as “excretion.” The medical aspect of these changes is that which tells us that with this stimulation of diet and excretion, we must, if health is to be maintained, also find power and strength to respond to the increased calls made upon the digestive and other functions. It becomes clear that if a person is unable to respond to these calls, sea-side residence will not do good, but harm. The failure of appetite, loss of weight, and general *malaise* experienced by some residents at the sea, are simply indications that there is probably an excess of stimulation, and that the system is unequal to the demands thus made upon it. In such cases, removal inland, to the less stimulating mountain-air, where the demands upon the processes of life are less heavy, is certainly to be advised. As a matter of fact, “bilious” persons, and others who suffer from digestive troubles, frequently find a seaside residence to disagree with them, and this for the reasons above given.

To the topic of sea voyages—in itself a wide and important subject, we shall hereafter refer. For the present we may only say that the benefits of a long sea voyage are

experienced in cases of consumption (to be carefully selected by physicians), in asthma, bronchitis, scrofula, certain nervous disorders, &c. But no one should think of attempting a long sea voyage without consultation with his physician, both as regards the locality to be visited, and the length of time, season, &c., during which the voyage is to be taken. Sea voyages should not be taken by those who suffer from obstinate sea-sickness, sleeplessness, epilepsy, certain heart affections, digestive disorders, liver enlargement, &c.

In our next paper we shall deal with the various health resorts, describing these places in alphabetical order, and mentioning their leading medical characters, and other particulars of interest to all who seek health and recreation from home.

## REFORM IN NECK CLOTHING.

THE head master of a large public school sends us the following remarks on Rational Dress for Men. We have much pleasure in publishing his views on this important matter:—

In your review of Dr. Pearse's book on “Dress,” you say, “It is well, however, to point out that the fight is only erroneously styled one of science and health against fashion.” And you quote Dr. Pearse as saying, “There is nothing against good fashion in dress, if the fashionable article is not in any way injurious to health. It is quite possible for a lady's dress to be both healthy and pretty.”

Now, all this is very true when taken in its right sense; but it seems to me that it is very open to be misunderstood. Assuredly, healthy dressing is in no way opposed to what is beautiful. But, if Fashion ever accidentally hits upon what is beautiful, from sheer love of capricious change, she soon discards it, and relapses into the hideous. For Fashion is essentially unreasoning and unprogressive; and if she ever seems to make an advance towards what is either healthy or beautiful, there is never the slightest security against a retrograde movement.

Allow me to illustrate my remarks by a brief history of what has happened about men's throats within the last fifty years. Old gentlemen, in the time of my boyhood, had usually a couple of cravats wound round their throats, and a high, tight collar reaching some way up the cheek. This represented the youthful fashion of some twenty years earlier, and that men of their generation were abundantly subject to throat diseases goes without saying. Younger men at the same time, *i.e.* up to about 1848, usually wore a silk cravat twice round, and always a stand-up collar. Then came the era of the tie once round, but still surrounding the stiff perpendicular wall.

I well remember the year of emancipation. The freedom of the throat happened to be aided by fashion, and the battle was quickly won.

A shirt very low and loose at the neck, with what is called the “Shakespeare” collar—all the better if made in one piece with the shirt—cannot, I think, be improved upon. At the school over which I have jurisdiction, shirts are required to be made in this way, and so loose that the movements of the throat when speaking or singing cannot meet with the very slightest obstruction. I may mention that a very eminent choir-trainer, on hearing our school choir, attributed its remarkable *volume* of “bass,” which then, as usual, characterised it, greatly to the very free throats. And, certainly, every one seemed to be of opinion that the free throat both was right and looked best. And though most people, from carelessness or habit, did not



keep their throats as free as they ought to be, fashion interposed no obstacle to their doing so.

I must confess that I was for some time of opinion that we had here an evidence that men's dress, at all events, was beginning to be guided by reason rather than by convention, especially as a retrograde movement sometime about 1867 did not last long, and did not extend so far as to make free throats remarkable. But I fear that this conclusion was premature.

I have no fear that the freedom of the throat will ever become a thing as audaciously eccentric as it was before the year of emancipation. There are now too many people scattered over the country who have become imbued with the idea that the maintenance of any step in advance, when once gained, is a matter of principle for this to happen. Observe that I make a great distinction between steps which have been gained and those which have not. Nothing can be worse for the cause of reason in dress, as in everything else, than those who have it at heart should make premature movements, and so rouse unnecessary prejudice. A man, *e.g.*, who totally discards stiff, black head-dresses, or who, in hot weather or hot climates, relieves himself at all times and in all places from the unnecessary and injurious weight of woollen clothing prescribed by custom would be making such a premature movement, just as a clergyman would have done fifty years ago, who attacked verbal inspiration in a sermon. But it is the reverse of over-bold to maintain a position once gained, as that of free throats has been. It would be too much to expect that the ordinary man of the world will do anything but sneer at the word "principle" in a matter like this; but such a person is not likely to be a reader of *HEALTH*. All who are opposed to the tyranny of the most unprogressive and unreasoning factor in our social life, should resist, whenever they can, the revived monstrosity of people obstructing the free movement of the muscles of their throats by walls of starched linen. Let me conclude by quoting Mr. Spurgeon on this subject ("Lectures to my Students," p. 134): "You seldom see a sailor wrap his neck up. No, he always keeps it bare and exposed, and has a turn-down collar, and if he has a tie at all, it is but a small one, loosely tied, so that the wind can blow all round his neck. In this philosophy I am a firm believer, having never deviated from it for these fourteen years, and having before that time been frequently troubled with colds, but very seldom since."

**LADY DOCTORS IN AMERICA.**—The *Philadelphia Medical Times* announces that Dr. Clara M. Ellsbury, of Cincinnati, and Dr. Juliet M. Thorpe, of Covington, Kentucky, have this winter opened a dispensary for the treatment of the diseases of women and children. It is modelled somewhat after the out-door department of the New England Hospital, where Dr. Ellsbury received her preliminary practical training. These young ladies are both graduates of regular medical colleges, the one from Ann Arbor, Michigan, and the other from the Woman's Medical, of Philadelphia, and are both members of the Academy of Medicine. They are energetic workers in their chosen profession, and are achieving well-deserved success. The Academy of Medicine has now three female members, the third being Dr. Julia Carpenter, who was the first lady member. The *New York Medical Record* writes:—Dr. Jennie McCowan was elected President of the Scott County Medical Society, Iowa, on Feb. 15. This is, we believe, the first instance on record in which a woman has been elected to preside over a body of medical men.

## Notings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney*.

THE hair done up high, well arranged on the top, is a most becoming *coiffure* to many, and it has a far smarter appearance in the evening if artistically arranged than when it was done low in the nape of the neck. Diamonds, flowers, feathers, or ribbons look doubly well in it so arranged. I always thought that very small excrescence of hair looked more in keeping with the bath than the ball-room. All, however, cannot wear the hair in this style. The piquant class of beauty is enhanced by it, but it detracts from the classic. Those who cannot bear the hair so taken up should make a compromise, and arrange it in coils high as well as low. Since this new mode has taken root, some comical sights are to be met with. Nearly everybody will be in the fashion, and some who should will not pause to consider that suitability is the grand desideratum. Scraggy necks with a few scanty hairs dragged on the summit of the head are brought to view, and thick necks and clumsy heads make their appearance; malformations which before were in obscurity are now dragged piteously into the light of day. If ladies would only make use of their hand-glass, and study the back view of their heads, I feel convinced that we should be spared many ungainly sights.—"Ilma," in the *World*.

\* \* \*

**HEADS, HANDS, AND FEET.**—The degeneracy of the human race is with some people a cherished article of faith, not to be lightly parted with, and many are the facts by which this foregone conclusion has been temporarily sustained. Very recently, for instance, it was said that the heads of English people were growing small by degrees, if not "beautifully less." Upon this point the testimony of hatters was approximately unanimous. Thirty years ago the average size of hats was considerably larger than now, and the conclusion followed that heads must have been also. A little discussion, however, showed that the conclusion did not necessarily follow from the premises. Hair is cut shorter than it used to be, and the method of wearing hats has changed also—they are nowadays not pressed so far down on the head. The two facts together explain the mystery without making that profound plunge into physiological details and the laws of life which was at first suggested. Next comes an outcry about gloves and hands, but here again not nature but fashion must be held accountable. People have developed a fancy for thrusting large hands into small gloves, and so long as they can strain a glove across the back of the hand, many persons appear to be satisfied, no matter how badly the fingers are accommodated. This is, of course, very absurd. In the first place it is bad for the glove, which has only a certain amount of "stretch" in it, and when this is exceeded something must give way, either the stitches, or the leather, or both. Then, again, an over-tight glove is uncomfortable to wear and ugly in appearance; and, looking at the subject in all its aspects, there is positively not a single gain to balance the disadvantages. The fact, however, remains. Messrs. Dent, Allcroft & Co. inform us that the sizes formerly kept in stock were from  $7\frac{1}{2}$  to 10 for gentlemen's gloves, and that they never thought of making anything smaller except to special order; now the sizes range from 7 to 10, with an increasing demand for the smaller sizes. In ladies' gloves the smallest



size formerly kept in stock was 6's; now 5½'s are kept. They have further found it necessary to issue circulars calling attention to the increasing practice of wearing gloves too small, and the consequent multiplication of complaints of the gloves giving way; naturally, neither shopkeepers nor manufacturers can be expected to hold themselves responsible for gloves destroyed in this manner. So after all, it is not hands but gloves that are smaller. The latest story of this kind is that feet are diminishing in size. A contemporary says:—"It cannot have escaped the observation of the trade that in ladies' goods there is a decided tendency to wear boots shorter and wider than was formerly the case," and suggests "that it is possible with reference both to hands and feet that we are developing smaller extremities." We can well believe in any amount of distortion in ladies' feet as a consequence of the idiotic boot-heels which have been fashionable for some years past; but most probably the fact, if it be a fact, referred to by our contemporary will be as readily explained when it is examined, as the questions of hats and heads and gloves and hands have been.—*Warehousemen and Drapers' Trade Journal*.

\* \* \*

RATIONAL DRESS FOR MEN.—"A Woman," writing to the *Times* recently, says:—"Men have their say on women's dress, and decide autocratically what is or is not 'rational dress;' will you permit a lady to represent that men's costume is by no means perfect, and admits of much improvement as regards health, convenience, and grace? It is rather difficult to speak out plainly enough to substantiate my assertion as to the first point; but doctors will testify that there has been a great increase of late among young men of liver and kidney disease, not to speak of other delicate parts. This is owing, I believe, to the fashion which has prevailed of small cut-away coats, leaving loins and stomach unwrapped, save by the tight and often thin trousers. Older men frequently suffer from chill taken from sitting on damp seats, or cold stone, from which a woman would be protected by her more voluminous garments. The absurdity of the open coat and waistcoat, turned back just where the throat and chest need covering, is more generally recognised. The practice of wearing, in winter, waistcoats cut very high, and the constant argument for wearing a beard 'to protect my throat,' show that it is felt, though not often acknowledged in speech. The large expanse of starched shirt-front, held together, perhaps, with but one small stud, is ridiculous in every way. It is a sham, for most, if not all, wearers supplement its deficiency by a warm vest below, which cannot, however, quite exclude a searching wind, or keen night air, after leaving a warm room, from reaching the lungs. It is not beautiful in itself, it becomes easily soiled, needs frequent repair, costly washing, and seldom sets as it should. The stiff collar, rasping chin, cheeks, and throat, is most inconvenient in every way. A far more rational dress for man was the doublet fastening to the throat, and covering the thighs with soft band or turn-down collar. We come now to the crucial garment so recommended for women's imitation—trousers. If these be so adapted to allow the free use of the limbs, how is it that men wear knickerbockers for bicycling, rowing, running, and climbing? I once heard a gentleman, who had been to a fancy ball in hose and silk stockings, exclaim, 'How jolly it is to dance without trousers.' I suppose he found they fettered freedom of action. The chief difference between man's dress and woman's is the principle of suspension. The former uses braces, and hangs all the weight on the

shoulders, the latter uses corsets, and suspends from the waist. Braces would not do for women—they would cut and pain the delicate flesh of the breasts. Do they suit men? Is it not curious that in all active exercise they are discarded, and a belt substituted? I can easily imagine many inconveniences attending their use; but content myself with suggesting the question. I have said nothing about the grace of men's dress—every one must allow it might be more ornamental. No one who has ever seen a stout, elderly man without his coat can help shuddering at the thought of a matron, stout and elderly, clad in the dual garment, with only a frill round the waistband of the victorious trousers, valuable to the morphologist as showing the course of evolution. Men and women are structurally different in make and physical constitution. I am so benighted as to think their dress should also differ to suit their needs. I could say somewhat in defence of the use (not the abuse) of the abhorred corset; but I prefer begging men to perfect their own costume before attacking the dress worn by one still calling herself a woman."

\* \* \*

THE BRAIN AND DECAY OF THE TEETH.—Hard-working students force the growth of their intellectual capacity at the expense of their teeth. It is said that the teeth undergo a rapid alteration in students who labour long, and that on the cessation of the hard work the dental disease dies away. We are quite prepared to admit that there may be some truth in these assertions. The teeth have been known to become loose and drop out apparently as a direct consequence of that protean disease, tabes dorsalis. But it is probable that even truthful Nature will be found to draw the line at the wholesale accusation of her nervous system. Why, we should have thought that the dental arches were as much without the pale of action of the much-impeached mental organs as the nails and the skin. Explanations of this alleged fact concerning the teeth have been mentioned by a recent writer in *L'Union Médicale*. It is thought that the brain, when overworked, steals all the phosphates, and leaves none for the teeth, or else that a deterioration of the general health is brought about by the excessive study. Now, it is certainly a matter for consideration whether excessive mental work *per se* is capable of inducing serious disease. Side by side with natural mental life there probably goes on more or less unhealthy action, which bears pretty much the same relation to the former as the latter does to the frictions on a steam-engine. What is friction in the engine is anxiety or worry in the man. It is the friction which destroys the physical basis of the engine, and it is the anxiety that wears out the material structure of the man. So, then, all brain action is accompanied by the inevitable residue of anxiety or whatever else we choose to call it, but this residue may be lessened by various circumstances, and may be augmented by many conditions; and so it is that of two men of equal original health and equal original powers, but of dissimilar environment, the one succumbs because the heat of frictional anxiety has consumed him, the other lives longer because the obstacles to his vital acceptance of the first law of motion have been reduced to a minimum.—*Lancet*.

CONCERNING the actual quantity of dust floating in the air, Tissandier found in the air of Paris, after a week of dry weather, that there were 23 milligrammes in a cubic litre, or about one grain to 100 cubic feet. After a heavy rain there was about one-fourth as much—six milligrammes to one litre.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Health Lectures for the People.* 1st, 2nd, and 3rd Series. Delivered in Edinburgh, from 1880-83. (Edinburgh: Macniven & Wallace.)

(Continued from page 128.)

DR. CUNNINGHAM'S remarks on "boots" must have received the hearty approval of all sensible persons, when he remarked the deformity which is produced in the natural foot (Fig. 3) by the ordinary boot (Fig. 4). The deformity of the toes produced by the ordinary boot—the great toe being actually twisted outwards—is also shown in Fig. 5. It is satisfactory to note that the bootmakers



Fig. 3.

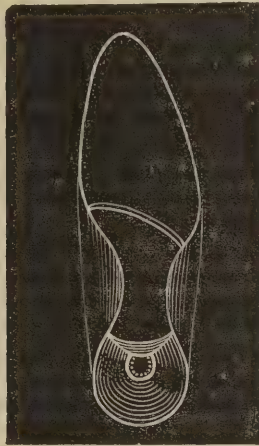


Fig. 4.

are beginning to initiate reform in this direction by offering hygienic boots for sale. Messrs. Dowie & Marshall, of 455, Strand, London, have in this respect been pioneers in their trade. If such reforms continue, the enormity seen in the modern ladies' boot (Fig. 6), where the foot is distorted and the body's weight thrown forwards, will shortly disappear from the shop-windows and pavements alike. Dr. Jamieson's lecture on the "Skin," and that of Dr. Foulis on the "Digestion of Food," are admirable examples of popular and instructive discourses.



Fig. 5.

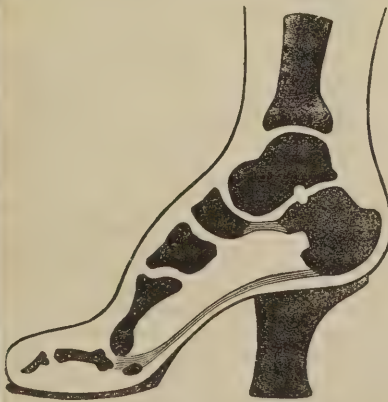


Fig. 6.

The third series, delivered in 1882-83, deals, for the most part, with practical topics. Dr. Cathcart, a contributor to *HEALTH*, discourses on that most important of topics,

"Physical Exercise;" whilst Professor MacLagan and Dr. Tuke, give sound advice regarding "Ventilation," and "Brain Health," respectively. Dr. Blair Cunynghame's lecture on "The Ear in Health and Disease," and that of Dr. Argyll Robertson on "The Eye," contain, each, much

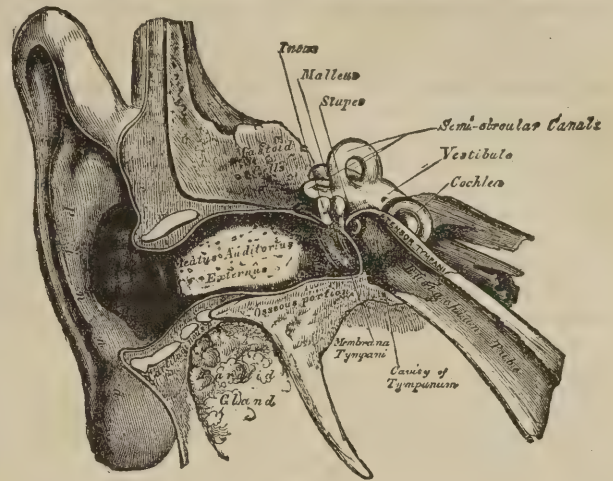


Fig. 7.

information of the highest importance in enabling us to take care of our "gateways of knowledge." A very explicit cut of the ear and its structure, which we here reproduce (Fig. 7), renders an abstruse subject plain, and shows the drum-head, the small bones (incus, malleus, and stapes) which convey the vibrations of sound to the inner ear, and other parts, including the Eustachian tube, which leads from the inner side of the "drum" to the mouth. No less interesting is Dr. Cunynghame's description of the curious cochlea (Fig. 8), or "snail shell" part of the inner ear. It

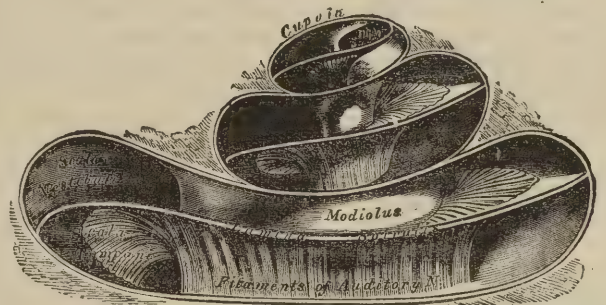


Fig. 8.

is on this part of the ear that the nerve of hearing expands. Miss Blyth's lecture on "Domestic Economy as regards Food and Cookery," Dr. Croom's remarks on "Sick-Nursing," and Mr. Smith's discourse on "Sanitary Law and Administration," shows us, clearly enough, that the promoters of these lectures aim at practical work. It is this practical spirit which brings science out of the clouds, and shows its application to every-day life, which forms the most gratifying feature of these useful and instructive lectures. No more useful discourses could have been projected or delivered.

*Number One and How to Take Care of Him.* A series of popular talks on "Social" and "Sanitary Science." By Joseph J. Pope, M.R.C.S., L.S.A. (London: Allman & Son).

DR. POPE is well known as an able lecturer, and as one who possesses the enviable power of clothing his thoughts



in plain and popular language such as appeals to his hearers with power and force. In the volume before us he has collected some half-dozen of his lectures, under the title of "talks" about health. We have read this little work with great pleasure. Dr. Pope's style is exactly that calculated to interest people in health matters. He is always chatty, and often very humorous in his remarks; but throughout the volume there is to be traced, likewise, a strong undercurrent of sound physiology. The chapters on "Good Cheer," and "Work and Play," strike us as being the most interesting in the book; and our author is thoroughly abreast of the times in his talk on "the mistakes of our modern wardrobes." There is a large amount of sound reading in the chapter on "Dust and Dirt," which alone renders this volume worthy careful perusal. No one can rise from a glance at Dr. Pope's cheery pages without feeling that he has learned something of value and interest concerning the conduct of his physical existence.

*Health Studies*; a third course of lectures delivered in the Lecture Hall of the Young Men's Christian Association. By H. SINCLAIR PATERSON, M.D. (London: Hodder & Stoughton.)

THESE lectures, albeit they are somewhat discursive in tone and diffuse in style, will repay perusal. Their author, the Rev. Dr. Paterson, deals with the special topics he selects for notice from the religious or theological point of view. Occasionally, in reading the volume, one tends to the belief that he is perusing a series of sermons into which a considerable amount of physiology has been infused. Apart from the fact that the subject-matter is of itself reverent enough in nature to have obviated the necessity for the introduction of "sermonising" tendencies, the volume before us will be found to contain a large amount of interesting information. The author is skilful in his arrangement of details, and contrives to convey a large amount of knowledge within a small compass. In so far as its health precepts are concerned, Dr. Paterson's work is to be thoroughly commended.

## Sanitary Appliances. Etc.

LUCAS'S EXCELSIOR SOAP.—We have received samples of this soap, and have had them submitted to analysis. The soap is pure, and answers fully to the description given of it, and to the qualities claimed for it by the maker. An important feature of this soap is its high percentage of fat—a point not always attended to in soap-making. The "Excelsior Soap" will also be found to be economical in use—a recommendation which will go far with thrifty housewives.

DURATION OF LIFE IN ENGLAND.—By far the larger proportion of the present increased duration of human life in England is lived at useful ages, and not at the dependent ages either of childhood or of old age. Among males 70 per cent. and among females 65 per cent. of the increased duration of life is lived between the ages of 20 and 60 years.

HEALTH AND NATIONAL FINANCE.—If the nation realised the extent to which it is impoverished by preventable disease, rendered poorer by definite loss of that wealth of which money is the token, it would bestir itself in the cause of sanitary science in a manner that would quickly yield results, of which at present an approximate conception can scarcely be formed.

## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply.

All Communications, &c., intended for the EDITOR—including Books for review, Sanitary Reports, Abstracts of Papers, specimens of Sanitary Appliances, &c.—to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

To CONTRIBUTORS.—The Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

THE EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.]

#### FISH AS FOOD.

SIR,—May I ask, on behalf of that numerous class who are—

"Doomed to the hardest task of man alive,

To make a guinea do the work of five,"

if thrift and poverty cannot do far better with their scanty funds than to spend any of it on fish or beef. Dr. Pavy informs us, through your columns, the analysis of meat and white fish is—

	Lean Beef.	Fat Beef.	White Fish.
Nitrogenous or flesh-forming matter ...	19.3	14.8	18.1
Fat.....	3.6	29.8	2.9
Minerals.....	5.1	4.4	1.0
Water .....	72.0	51.0	78.0
Total .....	100.0	100.0	100.0

The following extract is from the Report ordered by the House of Commons to be printed (see Diet in Prisons, March, 1878): "The estimated cost, at present prices, of various articles of food required for raising the body of a person weighing 10 st., or 140 lb., to a height of 720,000 ft. :—

	£.	s.	d.		£.	s.	d.
Split Peas .....	0	13	0	Bread .....	0	18	0
Oatmeal .....	0	14	0	Fish .....	2	3	3
Flour .....	0	16	0	Beef .....	6	0	0

The question comes, can fish be brought down to one-third its present price; if not, economy and thrift will wisely avoid it, as they avoid beef. Respecting the latter food, the *Lancet* speaks in the following words:—

"Meat—using that term in its popular sense—is highly stimulating, and supplies proportionately more exciting than actually nourishing pabulum to the nervous system. The meat-eater lives at high pressure, and is, or ought to be, a peculiarly active organism, like a predatory animal, always on the alert, walking rapidly, and consuming large quantities of oxygen, which are imperatively necessary for the safe disposal of his disassimilated material. In practice we find that the meat-eater does not live up to the level of his food, and, as a consequence, he cannot, or does not, take in enough oxygen to satisfy the exigencies of his mode of life. Thereupon follow many, if not most, of the ills to which highly civilised and luxurious meat-eating classes are liable."

M. NUNN.

[Our correspondent overlooks the important fact connected with variety of diet and also with combinations of vegetable and animal foods as dietaries, which, even if more costly than purely vegetable foods, present us with concentrated nourishment well adapted for



the generality of lives. Nevertheless, we are glad to present his views to our readers.—Ed. "H."]

#### ARE BRACES INJURIOUS?

SIR,—Can you or any of your readers inform me as to the effect of the custom existing among seamen of wearing trousers tight round the hips and abdomen, in lieu of supporting them by means of braces? Whether the custom is a healthy one? Whether the consequences are not that ultimately the muscles of the abdomen become weakened, and the wearer acquires what is vulgarly termed a stomach?—And oblige yours truly,

R.M.K.

[Seamen's belts are not, as a rule, drawn tight, otherwise the well-known "hitching" of the trousers, or "hauling in the slack," as a sailor would put it, would be unnecessary. Any pressure on the organs of the abdomen is injurious, and tends to displacement of the internal organs, especially during exertion. We shall be glad to publish any details regarding braces *versus* waistbands with which our readers may favour us. Our Correspondent should give the "Argosy Braces" a trial.—Ed. "H."]

#### PUFF AND DART.

SIR,—With reference to the correspondence in your periodical, under the above heading, will you permit me to suggest a means of obviating the risk incurred through involuntary inhalation of the dart?

If two cross-wires were soldered to the mouth of the tube through which the dart is blown, the latter could not possibly be drawn into the air passages. Boys could then practise without risk to themselves, though the danger to bystanders would remain in full force. —Yours obediently,

ANTI-JACULATOR.

### QUERIES AND ANSWERS.

#### GENERAL.

C. GARSON.—Address the publishers.

A. L. O.—No; none but technical works.

C. E.—Try Messrs. Churchill's list.

A. M.—Eucalyptus.

GEORGE S.—The anatomist you refer to is Vesalius. See Kingsley's account of his life.

B. A. TAIT.—"Aneurism" is a pulsating humour situated on an artery, and caused by the rupture of part of the artery's wall.

FOX.—1. The space behind the knee. 2. No.

ALEX. S.—About twenty-five years.

#### SANITARY.

Ω.—There must be some deficiency in the action of the trap. It is not uncommon to find a "blow back" from such a trap. If the trap-pipe were carried high enough, the inconvenience might cease; but we should prefer a "Buchan's trap," or an equally safe one, in place of that in use. There should be no smell, if your arrangements, as sketched, are in working order.

INQUIRER A.—We believe Messrs. Jennings make apparatus such as you require.

G. C. L.—Chloralum, probably, or Condy's Fluid.

NATATOR.—The pipes should be disconnected, and free ventilation ensured.

B. JACKSON.—The system is that of Dr. Hinckes Bird.

#### MEDICAL.

WILLIAM RICHARD.—The spinal weakness may arise from your rheumatic and other tendencies. Try the effect of warm clothing and a flannel binder. You evidently require rest. Glad to hear the mineral-water did you good. If you attend to the rheumatism, the spine-symptoms will likely be improved.

GEORGE LEWIS.—We cannot presume to offer you advice on the point to which you refer. Our idea is that the practice to which you allude is in itself a striking form of weakness. The advice "Be temperate in all things," is applicable to your case. You should be careful, lest your present life leads to future weakness.

CAPER.—Your list of queries is astounding. Some of them are highly frivolous, to our way of thinking, others quite unnecessary. To the main point you raise, we reply, that the varying ages and constitutions, etc., of individuals make any hard and fast line impossible to be drawn. Absence of appetite must often depend upon causes which only a careful medical examination can discover. We regret it is not in our power to advise you further.

IRONOPOLIS.—You do not suffer from any disease, so please get rid of that notion. You need no remedies, save temperance, early rising, attention to business, cheerful society, and cold bathing, if it can be borne.

TEMPUS.—Your case is by no means rare. The reply to "Ironopolis" above applies also to your case. See also replies to "Charles H." and "Youth," in No. 6 of HEALTH. You want a little cheerful society, and, with confidence in yourself, you will soon be well. Write again, if unimproved.

F.R.S.—1. No; the treatment is entirely general and moral. The latter affection is often more apparent than real. See replies to "Ironopolis" and "Tempus" above. 2. They are of use as general nerve-stimulators. 3. Yes; Pulvermacher's bands have been proved, in our presence, to be thoroughly as described. They are genuine electrical appliances.

L. JARVIE.—You possibly suffer from a nervous affection of the skin. Try the effect of "Fellow's Syrup of Hypophosphites," to be had of any druggist—a teaspoonful in water twice or thrice a day, before meals. Write again, after a fortnight's trial of this advice. Use luke-warm water for washing, and avoid chills.

J. E. MARTIN.—See replies to "Ironopolis" and "Tempus" above. The medicine you are taking should do you good, but we would rather counsel you to trust to plain, temperate living, sleeping in a well-ventilated room on a hard mattress, and moderate exercise. By attention to general health, your ailment will disappear.

E. T. SMITH.—If the pain is severe, try the effect of applying a Rigollet's mustard-leaf, until the skin is slightly reddened. Is the general health good? If not improved, we shall be glad to advise you further, on having more complete details of your case.

UVULA.—Try a gargle of borax one drachm, and glycerine two ounces, mixed. If this does not suffice, replace it by one of tannic acid (three grains to the ounce of water). You must also try some internal tonic, such as quinine and iron.

LEX.—Yes, on the general principle that they cause pressure, however well made they may be. Address your inquiry to Mrs. King, 34, Cornwall-road, Bayswater, London, W., who will be glad to advise you concerning dress.

OCULI HEBES.—Give your eyes rest. Do not read more than you can help, especially at night. Try a lotion composed of two grains sulphate of zinc to the ounce of rosewater.

W. H. B.—If you suffer from rupture, tricycling, &c., should not be indulged in without medical sanction. Our advice to you is to see a good surgeon.

XENOPHON.—Do not be despondent. You do not suffer from any actual disease. See replies to "Ironopolis" and "Tempus" in present number, and to "Rickardo" in No. 5 of HEALTH. You certainly have no "nervous disorder," so please avoid quacks.

JUVENIS.—We should advise you to take a little good claret with your meals. We believe your craving for food arises from want of digestive power. Try what effect Morson's "Pepsine" will have, taking it as directed on the bottle.

G. WYATT.—We should certainly advise you to take frequent doses of quinine as a tonic and anti-periodic. Look to the state of your house. Are you damp, or are your drains in satisfactory order? The recurrence of the attacks points to some cause existing in your surroundings.

BOSCOBEL.—Under ordinary circumstances, we should say not. But the use of a "Silicated Carbon Filter" is unobjectionable in any case.

R. H. B.—Our best advice to you is to consult a good surgeon in your nearest city. The case is clear enough from your description, and our advice to you is the more decisive, because we believe a good surgeon will be able to restore your health with very little trouble. There are no parasites in your case.

NORTHAMPTONIAN.—There is no indication in your details that you are in any way affected. The symptoms you describe are not even inconsistent with health. Cease your active exercise for a time, and see the effect of the abstinence. You appear needlessly alarmed. Try the effect of a weak solution of Condy's Fluid in water applied to the part.

R. KAWADA.—Difficult to say; try skim milk diluted with water. Barley water is also refreshing. Squeeze the juice from a lemon, strain, and add to a tumbler of cold water with a little pounded sugar, add half a teaspoonful bicarbonate of soda, and drink while effervescing. This is a refreshing summer drink.

TED GARTH.—No; not the sugar, but the adulterations which sweets contain. There is no reason why the teeth should suffer, if they are attended to properly. See the early numbers of HEALTH. The negroes of the Gold Coast, who almost live on sugar, have splendid teeth.

YOUNG ANXIOUS INQUIRER.—After a careful consideration of your case, we think it clear that you suffer from a general want of tone throughout your system. Our advice to you is—(1) Rest and



change of air—to the sea, if possible; (2) Tonic medicines, "Fellow's Syrup of the Hypophosphites," in teaspoonful doses thrice daily, before meals, is a good, handy, and safe tonic; (3) If you lose flesh, cod liver oil, combined with a little iron; (4) Moderate exercise, early hours, and temperance, with light but nourishing food. You have allowed yourself to "run down," and want "picking up." If a mild aperient is required, try *Æsculap* water. Write again, if unimproved.

**A SUFFERER.**—You suffer from weak digestion. Rest after meals, avoid stimulants, be careful as to smoking, if a smoker, and take moderate exercise. A little "Pepsine" would also do you good taken along with meals.

**JOKIM.**—Try the effect for a time of frequent washing with hot water and Pears' soap—taking great care of cold thereafter. Use a little pure Vaseline to the skin at night. As you live temperately, nothing need be advised under that head. Perhaps an increase of vegetables in your food might also be serviceable. Strict cleanliness of skin and obviating undue dryness are the main points to be attended to.

**DAVID EVANS.**—Attend to the *ozæna* first; and to your general health. As regards the hair, the electrical process could be applied, but only by a professional man. In all cases, the hair papilla must be destroyed. A favourite depilatory is composed of sulphate of soda, 3 drachms; quicklime, 10 drachms; and starch, 10 drachms. These are powdered and kept in a stoppered bottle, a little water being added to the paste when used, and the preparation applied with a wooden spatula to the part, and left for five or ten minutes till smarting begins. It is then to be scraped off, and the part washed with warm water, starch powder, or oxide of zinc ointment being placed on the part. But the use of such depilatories is always painful, and seldom secures the end in view. Try what a course of tonics will do for the mere irritation.

**BELLA.**—Purchase some charcoal biscuits and try their effect. You evidently suffer from indigestion. Give up your tea, and try cocoa and milk instead. Do not eat supper late, and attend carefully to your health. Write again if not improved.

**BLACK BOY.**—Your case is one for surgical advice. It is probable that a simple operation will relieve you. See a surgeon at once. As you are near Newcastle, visit the hospital there.

**TULIP.**—Your symptoms appear to us to be those of general systematic disturbance. Why not try the effects of change at once? If the sea agrees with you, try the nearest bracing situation. Take a tonic, such as recommended to "Young Anxious Inquirer," which has done much good in similar cases to yours. A mild aperient should also do good. Is there any tendency to rheumatism in yourself or family?

**BOVERAM.**—1. We believe a small piece of camphor, size of a walnut or so, to a quart of water; but there is no exact rule. 2. The man walks in an hour four miles (=21,120 feet). If he takes 2,000 steps every fifteen minutes, he must take 8,000 steps in the hour. Divide 21,120 feet by 8,000 (the number of steps), and you get the result named in the book, =2½. 3. Yes, papers on training, &c., will be duly given in *HEALTH*.

**A FEW FRIENDS.**—We fear not. The so-called "formula" are as often as not injurious to the skin. Try some of the preparations recommended in our papers on the Hair. Many persons, constitutionally, have scanty beads.

**INQUIRER.**—No; no mention of his name on the Medical Register. Not a qualified practitioner by the laws of this country.

**P. T. HENRY.**—What is the state of ventilation of your bedroom? We regard your symptoms as those of a little nervous debility. Can you bear a cold bath in the morning? If so, try that. Do not sup late, and try the effect for a few nights of ten grains of bromide of potass on going to bed.

**X. Y. Z.**—We would advise you (1) to alter your diet; take more vegetable food, and leave off animal food. Take rice, sage, and tapioca puddings, and white fish for a time. Fruit to breakfast will also be beneficial. (2) With regard to the preparation you mention, we would advise you by no means to make a habit of taking that, or, indeed, any other such medicine. Try "*Æsculap*" mineral water instead.

**SCHOOLMASTER.**—See advice to "X. Y. Z." above; especially the latter part thereof. Write again, if not improved.

**GOUT.**—See Replies in No. 1 *HEALTH*.

**KNUCKLE JOINTS.**—A very foolish practice. Can you not summon strength of mind to give it over. The joints are only rebelling after your ill-usage. Give them rest, and rub a little warm oil into them occasionally. Rest will put you all right.

**A. Q.**—Add a tablespoonful of Condyl to half a tumbler of water, and use thrice daily. Increase the strength if needful. The tonic you mention is an excellent one.

**R. T. GIBSON.**—You do not say anything about your habits or employment. Send us fuller information. Meanwhile, read our papers on "Headaches" in Nos. 3 and 4 of *HEALTH*.

**SUFFERER.**—We do not think you need be alarmed. Look after your general health, and use a solution of "Condyl's Fluid," about a tablespoonful in half a tumbler of water. You must also rest as much as possible for a time.

**MILL-WORKER.**—Diet plain and light; no stimulants; fish, fruit, with meat occasionally; replace tea by cocoa and milk. Try the seaside anywhere near your locality for a week or two. If pains continue, take 15 grains bromide of potass twice daily for a week. If you go to the sea, try hot salt-water baths. Trinity, near Edinburgh, is your nearest point for these baths.

**SECOND STAGE.**—See our papers on the Hair, where various recipes are given. Which oil do you use? From your description, we fancy you suffer from over-secretion of the sebaceous glands of the scalp (*seborrhæa*). Extreme cleanliness, and the use of one or other of the lotions recommended in our papers, should cure you. Write again, if not improved.

**T. ARMITAGE.**—You give no particulars. Write more fully.

**JOSEPH.**—To prevent bed-sores, keep the skin dry, and paint the parts twice a day with "flexible collodion" (from the druggist's) or with white of an egg beaten up with spirits of wine. Relieve all pressure by an air-pillow or cotton-wool cushion. Oxide of zinc ointment may be rubbed on the skin after the spirit has been applied. After breaking, keep the sore clean, poultice, and wash with a weak solution of Condyl's fluid between the poultice applications. Best poultice is a bread one, or where sore is foul, one made of one-half linseed meal and half charcoal. Stop poulticing when the sore is clean; then dress with piece of lint cut exact size of sore, and dipped in 1 to 40 carbolic acid lotion.

**CALEB THORNTON.**—You do not state the cause of the deafness, or humming in the ear. All the large London hospitals have a department for the treatment of ear diseases in out-patients. Try St. Thomas's Hospital, Westminster-bridge; or the Westminster Hospital, Middlesex Hospital, or London Hospital.

**EDINA.**—Try the effect of as long a holiday as you can get. Go to the seaside, and shake off your morbid ideas. We do not regard you as ill, but rather as hypochondriacally inclined. Pay attention to your health (which you don't seem to have done); live generously, and take "*Æsculap*" mineral water as a mild aperient. The cause you mention can have but little to do now with your state. See advice to "TULIP" and "X. Y. Z."

[We shall be glad to reply through our correspondence columns to any of our readers who may desire information on any particular points connected with particular health-resorts, either at home or abroad.]

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The terms of Annual Subscription to the weekly numbers of *HEALTH* are as follows:—

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All subscriptions are payable in advance.

*HEALTH* will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JUNE 15, 1883.

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## Notes by the Way

Health is the foundation of all our physical happiness."—Herder.

SHAKESPEARE is found to remark that "mickle is the powerful grace that lies, in herbs, plants, stones, and their true qualities." His observations are certainly borne out by most recent instances in our knowledge of the "grace" that lies hid in many of our most common plants. The "lily of the valley" appears to be the last plant which could be pressed into the service of medicine. Yet Dr. Troitzky has recently shown that the principles obtained from this sweet flower possess a very valuable action on the heart and other organs. His experiments show that *convallaria*—the name of the extract and of the plant also—increases the heart's action, lowers the temperature of the body by its action on the nerves controlling the blood-vessels; diminishes excessive blood-supply in the brain, &c.; and affects the functions of the kidneys. In certain cases of dropsy and heart-disease, "lily of the valley" seems likely to become a valuable addition to the physician's armament.

\* \* \*

AMONGST the true curiosities of animal life are those cases in which the organs of the body are transposed, and altered from their natural and accustomed position to foreign situations. Such cases are the result of abnormal development, and exist from birth. The late Sir John Rose Cormack, of Paris, put on record an interesting case in which the heart was placed on the right side of the chest, much as it should have been placed on the left side. The liver, which lies to the right side of the body, was in its turn transposed to the left side. Gruber, of St. Petersburg, tells us of a case in which the heart's situation was reversed, where the lungs were transposed, and where well-nigh all the other organs—liver, sweetbread, stomach, &c.—shared in the alteration. Persons in whom these abnormalities exist appear, *cæteris paribus*, to live long and healthily. Lately a person died aged forty, and in his case there was "a change of sides" in the heart, the spleen was placed to the right instead of to the left, and the liver was found in the place of the spleen, and in the left side. Such cases show us anew the infinite variation which underlies the ways and works of living beings.

A CORRESPONDENT writes us in an energetic strain respecting the paragraph published in p. 104 of HEALTH, respecting the development of senses in the infant. Our correspondent takes exception to Dr. Genzer's belief that the feeling of pain is but slowly developed in infants, and that pain is not exhibited until the fourth or fifth week of life. "A baby not twenty-four hours old," says the objector, "will show strongly-marked feelings of pain"; and he adds that only theorists will dispute what every parent or nurse knows "only too well." Our correspondent, if we may so put it, is just a little at sea respecting the nature of "pain." It is a common error of unscientific persons to confuse the symptoms of "reflex" and unconscious nervous action with pain. Parents and nurses cannot be supposed, on common sense grounds, to know more about the nature of pain in infants than scientists who have made a special study of the nervous system and its development.

\* \* \*

WE should like to ask our correspondent if he imagines "pain" can exist (as we know it), apart from consciousness? Does he consider that a child of twenty-four hours old is a "conscious" person, in the sense in which that infant will merit the term later on in its existence? If he will ponder over the replies to these questions, and re-peruse (in the light of a study in physiology) Dr. Genzer's remarks, he will perchance come to see that his wish that he may be preserved from such science as that indicated in our paragraph, is by no means creditable to a sound judgment. The early days and weeks of infant life, as every physiologist knows, are passed in a kind of dreamless slumber. Every action, including that of suckling itself, being performed automatically.

\* \* \*

IF our correspondent wishes for further proof of our assertion that the early days of infant-life know no "pain," we may refer him to the fact that animals born without a brain—owing to arrest of brain-development—but which possesses the *medulla oblongata* (or upper part of the spinal cord), alone developed, will nourish themselves, breathe, live for days, and "cry," like their normal neighbours. Would our friend assume that the "cry" in such a case was an evidence of "pain"?

\* \* \*

As the question of cemeteries and their regulation seems to be coming prominently to the front, it may be useful if we direct attention to the "Regulations for Burial Grounds" (provided under the Burials Acts) issued from the Home Office in 1863. The rules in question provide that the cemetery shall be "effectually fenced," and, if necessary, "under-drained," so that water cannot remain in any grave or vault. The grave-spaces are to be duly marked off and duplicated on the plan of the burial-ground. For persons above twelve years of age, the spaces must be at least 9 feet by 4 feet; under twelve years, 6 feet by 3 feet, or, if preferred, 4½ feet by 4 feet. A register of graves is to be duly kept, showing name, age, and date of burial in each case.

\* \* \*

So far, these regulations may, without any difficulty, be attended to. Then succeed rules which deal with the exact modes of burial. No body is to be interred in a vault or walled grave, unless the coffin is "separately entombed in an air-tight manner." This latter proviso is defined as including "properly cemented stone or brickwork, which shall never be disturbed." One body only, is to be in-



terred in a grave at one time, unless the bodies be those of members of the same family. No unvalled grave is to be reopened within fourteen years after the burial of a person above twelve years of age (or eight years if the person was under twelve years), unless to bury another member of the same family. In this latter case, a layer of earth, at least 1 ft. thick, is to be left undisturbed above the previously buried coffin. Where the soil is found to be offensive, it is to be left undisturbed. No remains, in any case, are to be removed from graves.

♦ ♦ ♦

THE final provision is a highly important one. It maintains that no interment shall take place in any unvalled grave within 4 ft. of the "ordinary level of the ground." An exception to this rule is made in the case of a child under twelve years, whose body may be interred at a distance of 3 ft. from the level. Even with these precautions—which, by all accounts, are not always observed—the great problem of the future for the dwellers in towns receives no solution.

♦ ♦ ♦

THE question, "How best to dispose of the dead!" will, sooner or later, require to be faced and argued out. "In a few years," says Dr. Parkes, "the question will again inevitably present itself." He adds that "the air over cemeteries is constantly contaminated, and water (which may be used for drinking) is often highly impure." The disturbance of an old graveyard has also given rise to disease. From what we know of the influence of long-buried germs of splenic fever in cattle (as shown in our "Germ Theory" articles), it is not improbable that the dead of cholera and other epidemics might still possess some power to injure the living. The sooner the "cemetery question" can be freely discussed the better for the public health, both present and future.

♦ ♦ ♦

SANITATION in Whitechapel requires looking after. Dr. Liddle, the Medical Officer of Health, tells us of some new houses in that district which have 73 rooms for 39 separate families. There are 151 persons—59 adults and 92 children—dwelling in 53 of the rooms, and some of these apartments are said to be "unfit for human habitation"—we may safely add, or for the occupation of animals either. There is no light in these dwellings, says Dr. Liddle—about the intellectual light of those who designed them, the less said the better. Fresh air is unknown; and yet people are found to wonder how and why typhus fever breeds and spreads.

♦ ♦ ♦

PLOUGH-STREET Buildings, Whitechapel, must be a highly choice spot for residence. One block therein situated contains 83 rooms, whereof 79 were occupied by 178 persons—91 adults and 87 children. These persons were mostly foreigners, and, adds Dr. Liddle, "very dirty." This occurs in a four-year-old block. What will be the state of these tenements when they are forty years old?

♦ ♦ ♦

OWING to the pressure on our space, incurred by the publication of the Health Exhibition report, we have been compelled to omit "Our Bookshelf" page this week.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### HOW ANIMALS DOCTOR THEMSELVES.

#### PART I.

IN a recent communication to the Biological Society of Paris, M. Delaunay observed that medicine, as practised by animals, is thoroughly empirical, that is, derived from experience. The same may be said of the rude medicine and surgery practised by inferior human races, or, in other words, by the majority of the human species. Animals instinctively choose such food as is best suited to them. M. Delaunay maintains that the human race also shows this instinct, and blames medical men for not paying sufficient respect to the likes and dislikes of the patients, which he believes to be guides that may be depended on. Women are more often hungry than men, and they do not like the same kinds of food; nevertheless, in asylums for aged poor, men and women are put on precisely the same regimen. Infants scarcely weaned, are given a diet suitable to adults—meat and wine which they dislike and which disagree with them. M. Delaunay investigated this question in the different asylums of Paris, and ascertained that children do not like meat before they are about five years of age. People who like salt, vinegar, &c., ought to be allowed to satisfy their tastes. Lorrain always taught that with regard to food, people's likings are the best guide. A large number of animals wash themselves and bathe, as elephants, stags, birds, and ants. M. Delaunay lays down as a general rule that there is not any species of animal which voluntarily runs the risk of inhaling emanations arising from their own excretions; the animal tribes in this respect being far ahead of many civilised human beings.

If we turn our attention to the question of reproduction, we shall see that all mammals suckle their young, keep them clean, wean them at the proper time, and educate them; but these maternal instincts are frequently rudimentary in women of civilised nations. In fact, man may take a lesson in hygiene from the lower animals. Animals get rid of their parasites by using dust, mud, clay, &c. Those suffering from fever restrict their diet, keep quiet, seek darkness and airy places, drink water, and sometimes even plunge into it. When a dog has lost its appetite, it eats that species of grass known as dog's-grass (*chiendent*), which acts as an emetic and purgative. Cats also eat grass, and sheep and cows, when ill, prefer certain herbs to others. When dogs are constipated, they eat fatty substances, such as oil and butter, with avidity, until they are purged. The same thing is observed in horses. An animal suffering from chronic rheumatism always keeps as far as possible in the sun. In lower animal life it would appear that surgery of admirable kind is not unknown.

Some very interesting examples of the literally surprising injuries which animals may endure and yet recover from, have been noted by those whose business it is to stuff and preserve animals for museums. Mr. Lucas contributes the following highly-interesting account which may be regarded as supplementary of M. Delaunay's views:—"When we see monkeys in captivity agilely skipping about their cages, springing from branch to branch without once missing their hold, it is difficult to imagine them catching a tumble. But an examination of numerous skeletons shows that they do occasionally come to grief in



a very serious manner, and that monkeys no more than men, can climb with absolute immunity from harm. Out of a dozen or so of large Neilgherry Langurs, two had broken thighs, and a specimen of the Proboscis monkey must have suffered severely from a similar mishap, for although the bone had re-united, yet the overgrowth of bone caused by inflammation had set in to such an extent that there was a deposit three-quarters of an inch thick for two-thirds of the length of the bone. Two large Orangs were found with the upper arm bone broken, and in one individual the injury was of such old standing, and the union of fracture so perfect, that the bone by itself would hardly attract attention. But when compared with its fellow it proved to be  $1\frac{1}{2}$  in. shorter, and revealed the situation of the break by its superior thickness and roughness."

In all of these cases, the injured limb was one of those most necessary to the animal's locomotion, for the smaller monkeys, which *leap* from tree to tree, had their hind legs broken, and the large apes, whose bulk forces them to swing carefully from one branch to another, had suffered in their fore legs. Hence, from the nature of the case, the repair of the injured member must have taken place under many disadvantages; and yet nature unaided performed a much better piece of work than did Dr. Livingstone for himself, in the African forests, with his knowledge of surgery. In fact, had the fracture been repaired by a surgeon, it would have been called a very successful operation.

Small animals, says Mr. Lucas, especially in settled districts, are subject to frequent accidents from traps and trappers. Among other victims that have come under my notice, two, a turtle and a porcupine, had one fore-leg completely amputated, the former below and the latter above the elbow. In this last instance the accident must have taken place when the animal was quite young, for externally the stump was scarcely discoverable, even by touch, while internal examination showed that the shoulder-blade was considerably atrophied.

About the only instance of a broken leg among birds—apart from gunshot wounds—was in a small Blue Heron, in which the ankle had been fractured diagonally and re-united; the slipping by of the two portions shortening the leg only about a quarter of an inch.

*(To be continued.)*

## A STROLL THROUGH THE RATIONAL DRESS EXHIBITION.

BY A LADY.

THE Princes' Hall, Piccadilly, looked quite gay when this Exhibition was established within its walls. Thanks to excellent management and the utilisation of space in an artistic and agreeable fashion, the comfort of visitors was all that could be desired. As one entered the hall, the platform was seen to be occupied by Japanese figures and drapery, lent by Messrs. Farmer & Roger. The quaint attire of the people who, of all Easterns, most rapidly follow in the van of European civilisation, is always attractive. It seems as though they were passing from a rational to an irrational dress in their now close imitation of the costumes of the West. "Art fabrics," shown by Messrs. Liberty & Co. (No. 1), shine resplendently in a special niche to the right of the doorway. Dress reformers who, in a future age, require materials for wear which combine lightness with warmth, and which will

brighten and lighten up the sombre tints around them, will probably seek in some of these fabrics sources of inspiration. Naturally, the "Rational dresses," by which term one may imply all costumes which in any way favour freedom of movement, and avoid compression and pressure, attracted much attention. A graceful dinner dress of pale pink and green, intended to be worn without stays, is exhibited by Messrs. Grace & Company. This costume (No. 9) seems to solve the problem of elegance in dress, minus the corset, and, to quote the words of the Rational Dress Association's rule, without "departing too conspicuously from the ordinary dress of the time." Mrs. King's evening dress (No. 13) (of the "Rational" school) for a matron had a zouave jacket of black velvet, with gold embroidery, an Algerian silk skirt, and a trained skirt. The corset, of course, is discarded here, and "trousers" are worn. This dress struck one as being somewhat too open in the body, owing to the style of jacket. It is certainly not a fashionable dress, and very great care, we should imagine, would require to be taken that the chest was well protected by warm underclothing. Close by, Messrs. Harris, Jones, & Co. (No. 16), showed three very pretty dresses; one, a lady's walking costume, in greyish tint, all wool, and very light, not requiring corset; next a skating costume, largely used in Canada; and, thirdly, a riding habit, the trousers of which possess an ingenious contrivance adapted to obviate pressure. These dresses, like that of Grace & Company, solve the corset question—for ordinary figures, at least. Madame Beck (No. 24) shows an ingenious arrangement of the elastic material known as "smocking." We were particularly interested in this material, which has something of the pliability and elasticity of the jersey in its nature, and which, therefore, would fit well to the body without compression. A blue dress for lawn-tennis, boating, &c., should become a favourite, and a girl's dress for physical exercise and calisthenics, is also neat.

Madame Cork (No. 25) showed a neat boating-dress of white flannel, trimmed with dark blue; the skirt is kilted, and narrow trousers are worn. Such a dress would be singularly light, but care should be taken that the fit is easy. Madame Brownjohn's exhibits (No. 28) attracted much attention. The travelling-dress which, in five minutes, can be altered into a dinner-dress without changing the bodice, owes its ingenious nature to the system of undoing folds and of adjusting others, lace being buttoned on to the sleeves, &c. This dress will not, we fancy, come into practical use. A dusty, travel-stained dress, could never look well, even when thus changed. But the "robe with narrow trousers" is a handsome dress, which seems to satisfy the requirements of reformers. It is properly slung from a broad hip-band, and secures equal warmth throughout. A young girl's robe is also light, and the trousers may be perfectly concealed; whilst the mantilla—itsself the bane of reformers—shown by Madame Brownjohn, is an improvement on ordinary types, because it gives freedom of movement to arms, and is not weighty on the shoulders. Mrs. Blair's walking-dress (No. 29) presents us with an example of the voluminous divided skirt. Each leg is enveloped in at least three yards of wide material. For walking we should imagine such a skirt was as cumbersome as any petticoats could be. Mrs. Butler's dress (No. 32) is of light grey cashmere and satin, with a loose jacket, and pleated waistcoat. The trousers are knickerbockers, and show four inches below the top skirt. The weight is three pounds. This seems an easy dress; if it possesses any fault, it might be said to be somewhat over-redundant in its skirt and kilting. M. E. Fisher's exhibits (No. 35) include a lady's tricycle dress,



boating and lawn-tennis dress, &c. They are all elegant and well made. Worth's dresses (No. 46) show that "fashion" and "dress reform" are by no means inconsistent phrases. The "evening dress" shown by this firm is characteristic, although it will not perhaps meet with the universal approval of those who cling to the recognised lines. The "dress of the future" (No. 45), made for Mrs. King, by Worth, has a Zouave of velvet, and knickerbockers slashed with red satin and trimmed with lace. A black satin merveilleux is worn, and there is a full bodice. Miss Stapleton's costume (No. 56) appears to violate one rule of hygienic dress by the possession of a bodice capable of being tightened by elastic. The divided skirt of this costume is constructed on the same principle, and has a deep kilt.

The exercise dresses for lawn-tennis, tricycling, boating, &c., are perhaps as interesting as any in the exhibition. A tricycle dress (No. 17) by Miss Jebb does not strike us as being elegant, and of Mrs. Blair's dress (No. 18), the same remark holds good. Mrs. King's tricycle dress (No. 34) is of dark green braided material, with skirt coming half-way down the leg, and having knickerbocker and riding trousers combined. It looks a serviceable dress.

Mrs. Goodman's dress (No. 41), like that made for Mrs. Wyman (No. 50), is ingenious, in that it can be at once transformed to form a walking dress. Both of these dresses should receive attention from ladies who are or intend to become tricyclists. An exhibit which is highly pleasing to inspect is that (No. 51) made by a working woman, and consisting of combination trousers (to the ankle) and a pinafore skirt with a waistband. Such a costume will give full freedom of movement to women engaged in trades and occupations where muscular exertion is called for.

An evening dress-suit for men (No. 23) with a swallow-tail and vest of black velvet, and trousers of cashmere, looks awkward, apart from its evident weight. It would be entirely out of place in a heated room. Mr. Patten's quilted bodices (No. 4) are intended to supersede the corset. The skirts can be suspended from them, and they certainly possess the advantage of warmth without pressure.

Mothers who well know the discomfort which infants must endure in being rolled over and over in the act of dressing them, will appreciate the exhibit No. 3. The "Argosy Braces" (No. 7), with their free and easy movements, and the Boneless Stays (No. 6) are also worth looking at. Boots and shoes, we are glad to see, come to the front in the Exhibition. Exhibits 53, 71, 72, and 73 deal with the sensible boot question. Amongst these Messrs. Dowie & Marshall's case (No. 71) stands conspicuous. Their boots appear to solve the important question of rational "understandings," and the "toed" or "digitated" socks will conform to the ideas of some reformers. Mr. H. Heath's hats (69), Mr. Addley Bourne's jerseys, combinations, &c. (No. 70), and the Andalusian gloves (No. 68) are well worth inspection. The "Forbes-Watson Hat" (No. 2) is an Indian helmet, in which, by an ingenious arrangement of sponge and fibre, and moisture, the head is kept cool. Something of this kind, adapted for British wear, would be a boon to the male sex in the dog-days.

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—*Oban Times.*

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## HEALTH ITEMS.

### SHOWER-BATHS AND GIDDINESS.

By W. MATTIEU WILLIAMS, F.C.S.

DR. ANDREW WILSON'S advice on the subject of washing the hair, on page 70 of *HEALTH*, reminds me of an almost forgotten experience of my own, which may possibly be of some service to others.

During several years I was subject to occasional attacks of giddiness that were rather alarming. On two occasions I quite lost consciousness, and fell down, but recovered in a minute or two; on several others I staggered, and only escaped falling by clinging to some object for support. The attacks were only of two or three minutes' duration. My habits of life being exceedingly simple, and general constitution decidedly robust, these symptoms were painfully suggestive of constitutional tendency to apoplexy, or something of the sort.

Conversation with a friend who had suffered similarly, suggested a possible cause, viz., the habit of taking a cold shower-bath every morning and allowing the water to fall directly on the head. I therefore modified my bath by stooping forward or leaning backward and sidewise, so that the water should fall on back, chest, and shoulders, but not on the head. The result has been a freedom from these attacks ever since, i.e., during about twenty years.

I was about to speculate on the *rationale* of this, but refrain at present until a broader basis of fact is obtained, seeing that it is just possible for my experience and that of my friend to be coincidences. Dr. Wilson will probably be able to tell us whether such symptoms are recognised in medical practice as due to the cause I have named. If not, the publication of this in *HEALTH* may induce others who apply cold water to the head and are troubled with similar giddiness to repeat my experiment and record the result.

[MR. WILLIAMS' interesting note is of timeous nature. We believe it is a perfectly recognised fact that a sudden head douche of cold water is apt to cause giddiness in many persons from its effect on the brain-circulation, which forms in itself a peculiar part of the blood-system. We know of cases in which persistent headaches, often accompanied by giddiness and faintness, have followed sea and river bathing; these effects having disappeared when the practice of plunging the head below water was discontinued. Persons affected as Mr. Williams describes, cannot do better than imitate his rule of omitting the head baths].

WATER AND ITS NATURAL PURIFICATION.—During a short residence in Ireland, Mr. Hartley observed that some peaty streams became rapidly discoloured, while others flowed for considerable distances without undergoing any visible alteration; and in August of 1880 he placed notes which he had made of his experience of peaty waters at the disposal of Mr. Gerard A. Kinahan, Associate of the Royal College of Science. The research was carried out in Professor Hartley's laboratory, with the result, in respect of natural aeration on peaty water, that even when it is exposed in the form of spray to immense volumes of atmospheric air it undergoes not the slightest degree, either in summer or winter, of purification from its organic constituents by any process of oxidation. Among certain clays which remove organic matter from water are a fine cream-coloured clay, described as "most efficient;" a disintegrated steatitic shale, containing a trace of manganese, "efficient;" a bluish clay, "efficient;" a brick-red clay, "very efficient;" and a disintegrated granite, "slow, but effective." Certain metallic oxides are also effective purifiers of peaty waters.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### NO. X.—HAIR-TROUBLES AND THEIR REMEDIES.

BY DR. ANDREW WILSON.

OCCASIONALLY baldness is confined to patches or circles on the scalp. This condition—that of true baldness—is not to be confused with "ringworm," which is due to the growth of a distinct parasitic fungus, and which, moreover, is infectious or contagious. True or ordinary baldness may affect localised portions of the scalp, and is due to those causes to which we have already alluded. Some nervous affection lies at the root of these localised affections, where special tracts of hair appear to suffer. Possibly the primary cause might be referred, with every probability of correctness, to conditions which affect the hair-nourishment. These circumscribed spots of baldness are more frequently seen in women than in men; and it has been noticed that they often accompany persistent headaches—the close relation between the nervous system and the hair, being thus proved anew. In young children, these special bald spots are to be found, and more especially where the patients are in weak health, and require good food, fresh air, and tonic medicines. In such cases, the sensibility of the scalp seems to be partially lost over the affected region, while the circulation is deficient. As regards treatment, as just indicated, the restoration of the general health is the main point deserving primary attention. Authorities recommend that as regards *local* treatment, the bald places should be painted over twice a day with *tincture of iodine*, this process being carried out till the scalp shows signs of irritation. If more severe measures are required, the *tincture of Spanish fly* should be painted over the spot, but the lotion should be washed off in from twenty minutes to half-an-hour after being painted on the head. The aim of this treatment is that of stimulating the nourishment of the scalp, and of favouring the activity of the hair follicles. Electricity, in such cases, applied with the positive pole at the nape of the neck, and the other at the bald spot or spots, is also regarded as serviceable by its action on the skin nerves and on the blood-vessels. A lotion which is also serviceable where the foregoing applications may fail, is composed of one ounce each of aconite liniment, ammonia liniment, camphor liniment, and chloroform. This is to be applied daily to the bare patches. When hair-growth appears to commence, it must be kept short for some time. The application given in page 119 of HEALTH may then be used.

For the baldness of old persons, there is, naturally, little to be done. A soft brush used night and morning to the scalp, and the lotion last-mentioned, are the measures most likely to prove of service.

Amongst the only too common troubles of the hair, *dandruff* or *dandriff* is perhaps that most frequently met with. The name arises from the resemblance of the scurf-like scales to bran. It should be known, firstly, that dandriff is itself, as often as not, a symptom of other hair troubles, and not the primary disease. The causes are very numerous. Primarily, carelessness in the treatment of the hair, neglect of cleanliness, infrequent brushing (with a soft brush), the use of a *too hard* brush, general ill-health, &c., are known to cause dandriff. Extreme dryness of the scalp is also a cause of this affection. Persons who perspire

largely by the scalp, and whose hats are not ventilated, are also frequently troubled with "scurf." The use of the *small-tooth comb* must be added to the causes of dandriff, for this instrument, which should be abolished from the category of toilet-instruments, simply scrapes off the outer cells of the scalp, and irritates the hair follicles. In common cases, avoidance of the above-mentioned causes of dandriff, and the addition of some simple pomade (already described), together with the use of a soft brush, will often cure this affection. A little bay-rhum, applied to the scalp with a soft sponge, is also to be commended.

The *sebaceous glands* of the skin have already been alluded to in the course of these articles. These glands open into the sheaths of the hair, and supply an oily matter which apparently contributes to their nourishment. The Latin term *sebum*, from which the name of these glands is derived, means "fat" or "suet." Occasionally it would appear that these glands are subject to over-stimulation. The chief ailment in the production of which these glands are involved is known as *steorrhœa*—literally, "a flowing of fat." The secretion of the glands—not merely of the scalp, but of the skin generally—is poured out in excess, and tends to form a greasy layer, which is as often seen on the face itself as in the scalp. The treatment of "greasy head" consists, firstly, in the softening of the fatty crust by the free application of oil—vaseline, sweet, or cod oil—and in its removal thereafter by the use of soap and warm water. Thereafter a wash, of the strength of four or five grains of tannic acid to the ounce of water, will be found efficacious. In very obstinate cases, a cold starch poultice may be required to clean the scalp. Such cases as that just described are invariably associated with general health disorder. The correction of this general bodily weakness is, therefore, absolutely necessary to prevent the continuance of the disease.

In those who are badly nourished, and who suffer from any exhausting disease, the secretion just described as causing disease by excess may be deficient. In the latter case the hairs are liable to be prevented escaping from their follicles. The result is, that the confined hair remains to form a swelling, and considerable itching and irritation follows. In some cases the hairs have a powdered appearance, due to want of nourishment, such a condition being most commonly seen in women and children, in whom crimping, curling, and other processes of hair-torture are common. The treatment of these latter conditions is simple in the extreme. The use of soap and water, and of a moderately-hard brush, will relieve the symptoms, whilst the dryness should be corrected by the use of simple pomade. An ointment of three drachms citrine ointment to five drachms benzoated lard, applied daily to the scalp, will be of service where the deficient secretion of the sebaceous glands causes the irritation already described.

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THE SANITARY INSTITUTE OF GREAT BRITAIN.—A meeting of the local committee appointed in connection with the meeting of the Sanitary Institute of Great Britain, which commences in Glasgow on the 25th of September next, was held recently. A report submitted by the executive committee shows that the arrangements for the meeting are being rapidly matured. The president has not yet been chosen, but the presidents of sections have been appointed as follows:—Sanitary science and preventive medicine, Professor Gardiner, Glasgow; engineering and architecture, Professor Thomas Rogers Smith; chemistry, meteorology, and geology, Dr. R. Angus Smith, Manchester.



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. X.—THE LIMBS.

BY A. J. MANSON.

THE limbs of man, as our study of last week showed us, are constructed upon the general plan we see represented throughout the world of vertebrate life. Each limb is attached to its body by a series of bones forming the "girdle" of the limb. The bones of the shoulder thus form the girdle of the upper or fore limb; whilst the "haunch," or *pelvis*, as it is named, represents the lower limb "girdle." In each limb five divisions are traceable: These are the upper arm and thigh, the fore-arm and leg, the wrist and ankle, the palm and instep, and the fingers and toes respectively.

In the shoulder of man and of all quadrupeds, except the very lowest—the *Ornithorhynchus* and *Echidna* of Australia—two bones are included. In these lowest mammals a third bone (the *coracoid bone*) is added to the two which exist in other quadrupeds; and in birds, reptiles, &c., this "coracoid bone" is also developed as a distinct bony



Fig. 1.—The right shoulder blade, seen from behind.

element. The two fully-developed bones of man's shoulder are, firstly, the *scapula*, or "shoulder-blade"; and, secondly, the *clavicle*, or "collar-bone." The position of the shoulder-blade is well-known to all. It lies (Fig. 2) at the upper and back part of the chest, and is therefore seen through the interspaces of the ribs, as the skeleton is regarded from the front. In its natural position, the shoulder-blade extends from the second rib to the seventh rib. It is a flat, triangular bone, the apex or point of the triangle lying lowest. The surface which lies upon the ribs is hollow, and the outer side of the bone may be known (Fig. 1) by its bearing two prominent projections. One of these is the *coracoid process* (see Fig. 1), which represents the "coracoid bone" of lower life; the other is the *acromion process*. To the "coracoid" process certain muscles are attached, whilst to the "acromion" process the collar-bone of each side is joined. A stout bony ridge, called the *spine* of the scapula, runs obliquely (see Fig. 1) across the bone. Important muscles are attached to this ridge, which ends in the acromion process just mentioned. The process overhangs a shallow, saucer-like space, the *glenoid cavity* (Fig. 1), in which the head of the *humerus*, or upper arm-bone (M), works. When the shoulder is

"dislocated," the head of the humerus (Fig. 2, M) is thrown out of its socket, the "glenoid cavity."

The collar-bone, or *clavicle*, is a narrow bone (Fig. 2, C), one end of which joins the acromion process of the shoulder-blade, whilst the other rests, as shown in our illustration, on the top of the sternum (D), or breast-bone. The "collar-bone" is curved, or twisted, and serves, like a key-stone, to keep the shoulder arch in position. This bone is absent in the hoofed quadrupeds (e.g., horse, cow, &c., in whales, and in seals. It is poorly developed in the lions, tigers, and other carnivorous animals.

The arm, or fore-limb, consists, as we have already noted, of, firstly, a single bone, the *humerus* (M), which extends from the shoulder to the elbow. Above, the humerus has

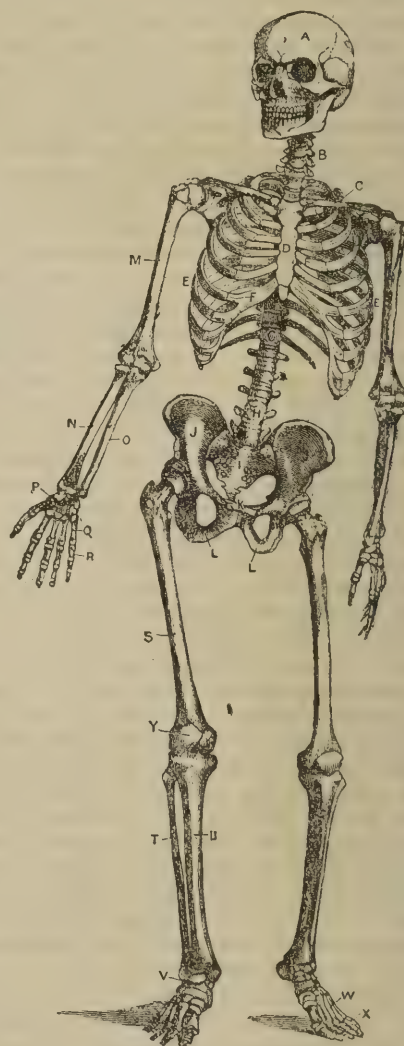


Fig. 2.—The adult male skeleton.

a round head, which fits into the shallow "glenoid cavity" of the shoulder-blade. The rest of the bone includes the *shaft*, or column, and below, it shows a pulley-like surface, which fits into the hollow of the *ulna* (O) of the fore-arm. Looking at the figure of the skeleton, and at the fore-arm of the right limb, we see that the *radius* (N) and the *ulna* (O) of the fore-arm lie side by side. In this case, the radius lies to the thumb side of the arm—the palm of the hand pointing forwards—whilst



the ulna lies to the side of the little finger (R). In this position, which is named *supination*, the bones therefore occupy what may be termed their natural position. If we keep our arm in this position, with the palm directed forwards or upwards, the radius and ulna thus lie side by side. But we possess a useful habit of at once reversing this position of the palm. In an instant, we can direct the palm of the hand downwards or backwards. Now, this "turn of the wrist," as it is popularly named, is really effected by the radius (N) rotating or running round the ulna. When our palm is downwards or backwards, the radius therefore crosses the ulna, as shown in the left-hand arm of the skeleton. In this latter, or crossed condition of the bones, they are said to be in *pronation*.

The *radius*, in its natural or uncrossed position, lies to the thumb-side of the limb. It has a rounded head above, and is broadened out below, where it joins the wrist-bones, or *carpus* (P). The *ulna* (O) shows a deep hollow above, where it receives the pulley-like end of the humerus (M); and below a small pointed projection (the *styloid process*) exists. In some animals (e.g., the bat, cow, horse, &c.) the ulna is very rudimentary; whilst in birds, the radius is the smaller of the two bones. In such animals as the dog and elephant the radius and ulna exist permanently in the crossed position, or that of *pronation*, while apes and sloths can alter the position of these bones as freely as man.

The *carpus*, or "wrist" (P), of man is composed of eight bones. Birds have but two wrist-bones, but the necessity for a movable wrist does not exist in birds, as we have already seen. Succeeding the "carpus" is the palm (Q), or *metacarpus*, consisting of five "metacarpal" bones; and to these succeed the fingers, or *digits*, all, save the thumb, being composed of three small bones, called *phalanges*. The Thumb has but two of these bones.

The lower limb of man corresponds with the hind leg of other animals. The *pelvis*, or "haunch," is composed in adult life of two bones (the *innominate bones*), which meet in front, and which have the *Sacrum* (I) wedged in between them behind. But in early life—and, indeed, up to the period of manhood—each "innominate bone" is found to consist of three distinct bones. These are, the *ilium* (J), which forms the "haunch" proper, and which joins the sacrum; the *ischium* (L), or lower part, on which the body rests in sitting; and the *pubis* (K), or bone which joins its neighbour of the other side in front. The head of the *femur*, or thigh-bone, works in a deep socket (to form the *hip-joint*) known as the *acetabulum*.

The thigh-bone (S) is the longest bone in the body, and below, shows two rounded surfaces (its *condyles*), which move on the head of the *tibia* or "shin-bone" (U) to form the knee-joint. Above, the "head" of the thigh-bone is supported on a prominent "neck," as shown in our figure. The "shin-bone" (U) has the well-known sharp ridge in front, and possesses to its outer side a long slender bone (the *fibula*, T). The *tarsus*, or "ankle" (V), consists of seven bones, whereof the *os calcis*, or heel, is highly prominent behind, and aids greatly in the easy maintenance of man's erect posture. The *metatarsus*, or "instep" (W), like the "palm" of the hand, consists of five bones (*metatarsals*), and the toes, or *digits* of the foot, possess the same number of *phalanges*, or separate bones, as do the fingers.

The *patella* or "knee-cap" (Y) is a *sesamoid bone*, this name being given to bones which are developed in the sinews or tendons of muscles. The other bones are not so developed; and "sesamoid bones" of small size are not uncommonly found near certain of the joints of toes and fingers.

## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

BY A HOSPITAL PHYSICIAN.

#### NO. X.—DISINFECTION AND DISINFECTANTS (*continued*).

In this chapter we propose to deal with the special features which should be attended to in the disinfection of the more common fevers in which this practice is of service.

In *typhus fever*, the special poison of which hangs about and breeds in the foul air of ill-ventilated apartments, there are two measures which require to be specially attended to. We must firstly attend to the *free ventilation* of the apartment. It has been proved that where ventilation is perfectly ensured, there is infinitely less risk of infection than where free circulation of air is not permitted (Murchison). The oxygen of the air acts in such a case as a powerful disinfectant. In typhus fever, there seems every reason to believe that disinfectants which are capable of being volatilised, and of mingling with the air, are of signal service. Thus, we may use *chlorine gas* in typhus-infected dwellings—always taking care, of course, that the strength of the gas is not allowed to annoy the sick persons. Again, carbolic spray may be of service, and "Sanitas" might also be used. The experience of the hulks and prisons, in which, at the close of last and beginning of this century, typhus raged fiercely, showed that the fumes of *nitrous acid* were apparently highly useful. In 1785, in a hulk at Sheerness, where prisoners of war were confined, and where 200 persons in all were located, 150 took typhus fever, 10 attendants and 24 of the crew being attacked, whilst 3 medical men had succumbed when the fumigation was commenced. After the disinfection with *nitric acid* (see our previous papers) only one attendant fell ill, and the disease in those already affected appeared to assume a milder type. In 1797 the same measures were tried, and with renewed success. On the Continent, according to Chevallier, nitrous acid is invariably successful in limiting the spread of typhus fever.

In this disease also, we should see that the clothes of the patient are instantly steeped in disinfecting solution when removed from his body. The poison of typhus is largely given off in the breath and in the skin-secretions. Hence the necessity for disinfecting the clothes at once, and for giving the atmosphere the benefit of medication. From the end of the first week to convalescence, typhus is infectious; and a peculiar "typhus odour" can be recognised in the patient's vicinity.

In *Small-pox*, the disinfection, so to speak, becomes a more personal matter than in typhus fever. Here, there are, as everyone knows, local manifestations of the disease on the skin. The discharges from the mouth, nose, and eyes are also to be regarded as noxious. Sir Thomas Watson tells us that there is no contagion "so strong as that of small-pox; none that operates at so great a distance." For the discharges from mouth, nose, and eyes, Cond's Fluid should be used. Sulphurous acid has also been recommended for this purpose. The skin should be treated with oil and glycerine combined with carbolic acid. It should be remembered that in the skin-scales which are given off from the patient's body, the poison is contained, and that these particles, wafted by the winds,



through the carelessness of the attendants, are capable of propagating the disease. In washing the body, in this and in other fevers, the use of such soaps as Cleaver's "Terebene Soap," Wright's "Coal Tar Soap," Culvert's "Carbolic Soap," or "Sanitas Soap," is to be recommended. These soaps contain matters which aid the work of disinfection. The use of carbolised oil to the skin prevents the drying of the scales, and also disinfects these particles. Revaccination may be performed on the adults and children of the household, and all infants therein should also be vaccinated.

To *Scarlet Fever* the same remarks apply. Here the skin peels off, and the poison is discharged in the skin-scales. The throat and mouth secretions are also to be attended to, as containing infected matter. The body should be rubbed with camphorated oil as soon as the doctor in attendance will permit this procedure; and the use of the disinfecting soaps (above named) will also be necessary during the patient's baths, which, during convalescence, may be given every second day or so. The skin-peeling, or "desquamation," as it is called, should have entirely ceased, ere the patient is allowed to mix with healthy persons. Neglect of this rule spreads scarlet fever (especially in schools) far and wide. For the throat, Condyl's Fluid may be used.

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SPREAD OF INFECTION BY PAWNBROKERS.—It may be useful to draw attention to a source of propagation of infection amongst the poor, which sanitary authorities appear seldom to consider, or often to overlook. We refer to the spread of contagion through the medium of clothes deposited in pawnbrokers' shops. The persistency with which the contagium of certain zymotics, and especially of measles, scarlatina, and small-pox, clings to clothes is well recognised by the medical profession. Not a few cases have been recorded of the propagation of these diseases by means of the retention of infecting power in clothes, which had been shut up in boxes for months after exposure to the original infection. Probably many cases of zymotic disease which are supposed to be sporadic, on account of the absence of obvious evidence of direct contagion, might be accounted for in this or in some similar way. Preventive medicine, which has regarded, with so much advantage to the public, the milk of the dairyman and the linen of the laundress, might now profitably turn its attention to the bundles of the pawnbroker. In many districts of the kingdom, the commoner zymotics are practically always with the poor; and these maladies will probably always remain more or less prevalent amongst us until every possible source of infection is clearly recognised and adequately controlled. In many places, it is a weekly custom amongst labourers and the poorer artisans, to pawn clothes at the beginning of the week, when money is scarce, and to take them out of pledge again at the end of the week, when wages come in. While the garments are in the pawnbroker's charge, they lie together in bundles, distinguished by numbers and dates. The pawner need not give his real name and address, for the possession of a pawn-ticket secures his claim upon the articles he has pledged. The danger we point out is one which could be avoided in great part if sanitary authorities were furnished with power to enforce a few simple restrictions upon the pawnbroker's traffic in clothes. Reliable registration of the names and addresses of pawners would do much to prevent the evil, while it might also be possible to insist upon the disinfection of clothes in suspicious cases, before the apparel is received by the pawnbroker.—*British Medical Journal*.

## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### HOW TO BUILD HEALTHY HOMES.

(Concluded.)

THE many kinds of elevators or lifts now in use gives the idea a feasibility at present which it did not have a few years ago. The hand, the steam, the hydraulic, and the gas motor elevators are now commonly used. Arch-building, as well as the flat roofs, are particularly adapted to southern cities, which are now rapidly advancing in importance, and where, in the near future, large amounts of capital will be invested. The ordinary perplexities and sufferings of mankind in general would be much relieved by this kind of building. As a negative good it would prevent the ground from being penetrated by sewers and pipes, or studded by pestiferous sinks of different kinds. Arch-building would solve the question of drainage in those cities built upon navigable water, where the land is low and flat, and but little elevated above the tide, or the banks of the rivers at high-water, as in New Orleans. It might solve the question of drainage in this city. It is by water that foul places are washed and cleansed, and what chance is there to do this, in a large way, when there is no fall or flow for the water? What is called drainage, in cities thus situated, only results in hiding and accumulating excrements and refuse matters for future bad effects. As an illustration, examine the city of Savannah, where we are now. The water in the river is but a few inches lower than the highest hill in the city. In some other cities, as in New Orleans, the land is even lower than the water. It would probably cost less to raise the houses in that city upon arches, pave the earth with artificial stone at a small grade, and organise an efficient plan for the removal of nuisances, than any system of drainage that has yet been proposed. The great essayist of a former age has said, "I would have every one write what he knows, and as much as he knows of it, not only on this, but on every other subject." The difficulties of the drainage question are universally known where there is no fall for water. Carrying away the offals, and keeping a city clean by means of arch-building, is entirely another thing. If any of you should think, at first, that these ideas are impracticable, reflect upon them, for they will bear comparison with the old style of building. They are given here with a view to elicit comment and excite study.

As it regards the flat-roofs, with or without gardens upon them, they are beginning to be spoken of already in some of the cities of this country. Their attractions and usefulness must be admitted. It is one of the objects of this paper to multiply their friends and show their practicability. It is not proposed as yet to suggest them for the main structures of private dwellings. But for the "certain class" of houses mentioned, the steep tin, tar, slate, or shingle roofs answer only the one single purpose of protection. The garden roofs will protect as well as they, and besides this, they are beautiful, healthful, and hence trebly useful, although in money, they need not cost three times as much. Some histories record that Queen Semiramis used lead in the construction of the celebrated hanging gardens of Babylon, but none was used in the garden already mentioned, which is more than twenty times less than the supposed dimensions of her's, and has not leaked in fifteen years, but seems to be equally sound as to its earth and timbers as when new. It was a boast of the renowned architect of



St. Peter's in Rome that he would swing the Pantheon in the air. Imagine cities like Savannah, where we are now, or New Orleans, or Washington, swung in the air with their gardens thirty feet from the earth.

There is scarcely a limit to the many uses to which such flat-roofs may be turned. In cities where cisterns are necessary, they may be made into filters. This subject might be carried to a greater length, but there are members of this convention, and others throughout the country, who can do this hereafter in a more more fitting time and place with greater detail.

Permit me say, in conclusion, that the two cities in this country, which should be most likely to give positive results from such suggestions, are New Orleans and Washington city. It is more to the interest of their inhabitants to try practical conclusions with such a style of architecture. New Orleans, on account of the immediate benefits to the health and comfort of its people; and Washington, because it is the capital of the nation, and should give example of progress. Again, imagine this national city with many garden-roofs tastefully ornamented. Will not the glare from the back buildings with the tin roofs induce some one, wearing golden spectacles, to try the experiment? Those immense sewers under the ground in Washington, with the history of the National Hotel disease already written, and the ague in the White House, are they nothing? or, are they to be remedied? It would be a worthy monument for any man, if the arch of triumph, in this case, could be made the building arch.—*American Sanitarian*.

SOCIAL sanitation is the sure basis of civil success, and all else is superstructure. It is vitally important to every human being who now is or is to be. It is preservative, maintaining for man the full degree of healthfulness now attained; it is promotive, reaching forward to secure the diviner soundness yet to be evolved.

SHOULD WOMEN RIDE LIKE MEN?—Such is the question which is being seriously discussed in the columns of a contemporary. Perhaps it would be as well to leave the determination of the question to those whom it principally concerns. We fancy they have no wish to change the custom. As a matter of fact, although it may not appear to be the case, the seat which a woman enjoys on a side-saddle is fully as secure, and not nearly as irksome, as that which a man has to maintain, unless he simply balances himself and does not grip the sides of his horse either with the knee or the side of the leg. It is curious to note the different ways in which the legs of men who pass much time in the saddle are affected. Riding with a straight leg and a long stirrup almost invariably produces what are popularly called knocked-knees. Nearly all the mounted soldiers of the British army suffer from this deformity, as anyone who will take the trouble to notice the men of the Life Guards and Blues walking may satisfy himself. On the other hand, riding with a short stirrup produces bowed legs. Jockeys, grooms, and most hunting men who ride very frequently are more or less bow-legged. The long-stirrup rider grips his horse with the knee, while the short-stirrup rider grips him with the inner side of the leg below the knee. This difference of action explains the difference of result. No deformity necessarily follows the use of the side-saddle if the precaution be taken with growing girls to change sides on alternate days, riding on the left side one day and the right on the next. The purpose of this change is to counteract the tendency to lean over to the side opposite that on which the leg is swung.—*Lancet*.

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson*.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health  
Resorts, Home and Foreign.*

BY A PHYSICIAN.

#### III.—HEALTH RESORTS DESCRIBED.

In our description of the principal health-resorts of Europe, we shall begin with the health-localities and quarters of the British Islands. An alphabetical order has many advantages—including the primary advantage of easy reference—over other modes of arrangement, and the chief health-features of each locality can be succinctly given as applying to the special town or locality which happens to be under description.

ABERGELE, a small seaport town of Denbighshire, the town being about a mile distant from the sea, and the station half-a-mile from the town. Abergele is reached most readily from London by the London and North-Western Railway, in eight hours. The Great Western Railway also has a connection, *via* Chester, to Abergele. The beach is sandy, and adapted for bathing. The air is decidedly bracing, and well adapted for all who require a tonic atmosphere. The population is between 3,000 and 4,000. From Birmingham to Abergele is a journey of five hours, whilst it is only some thirty-five miles from Chester. The fares from London are 34s. 4d., 26s. 9d., and 18s. 10d. Return, available for one month, 62s. 6d., 46s. 9d., and 37s. 8d. Tourists return tickets for summer, 61s. 6d., 45s. 9d., and 31s. Hotels: Cambrian, Bee, Bodlewyddan Arms, Harp, and Pensarn.

ABERYSTWTH, situated in Cardiganshire, is 242 miles from London, and can be reached either by the L. & N. W. Railway or Great Western, the former line being that most generally preferred. It is placed at the mouths of the Rheidol and Ystwith rivers, and faces Cardigan Bay. The beach is a wide, semi-circular sweep, sloping gradually to the sea, and having a broad thoroughfare as its shore boundary. On its north aspect, Aberystwith receives shelter from high hills; towards the east and south-east, it is open and exposed. The attractions of the town are somewhat limited; and the carpet-beating on the beach is admitted by all visitors to be one of the chief drawbacks to the town. Amusements are of limited nature, but several walks—*e.g.*, to Pen Dinas and Borth—and drives to the "Devil's Bridge" (14 miles) are interesting. The climate hardly, perhaps, deserves the terms "temperate and bracing" which have been applied to it; the rainfall, as a rule, is heavy, and the westerly gales of autumn strike the town with full force. The average death-rate is given at 18 per 1,000, the population being over 6,000. Baths can be had in plenty, but the beach itself is not well adapted for bathing. The season lasts from May to October. The chief hotels are the Queen's, Royal, Belle Vue, Talbot, and Gogerddan Arms. Fares from London 40s. 10d., 30s. 2d., and 19s. 10d. Return, 73s. 6d. and 53s.

ALDBOROUGH or ALDEBURGH, in Suffolk, is situated 95 miles from London, on the Great Eastern Railway. It can be easily reached from Norwich, Yarmouth, etc. The population is about 3,000, and the town itself is small, and consists of one long street. A two-miles-long promenade overlooks the beach, and an iron pier has been erected. Aldeburgh is a quiet and retired town. The climate is



bracing, and has been highly recommended in cases of lung-weakness, consumption in its early stages, bronchitis, etc. The climate as a rule is dry, especially from July to October. Bathing is easy. The fares are: 1st, 18s. 8d., 14s. 2d., and 11s. Monthly returns, 28s., 23s. 6d., and 17s. 8d. Special Saturday to Monday tickets and fortnightly tickets are issued in the holiday season. Hotels: White Lion, East Suffolk, and Brudenell.

ALDERNEY, one of the Channel Islands, 15 miles distant from Guernsey. (See CHANNEL ISLANDS for full description of climate, etc.).

ALLONBY, in Cumberland, is situated on the coast, seven miles from Tilloth. Population about 500. The town is reached *via* Carlisle and Silloth from all parts. Air mild and dry, but bracing; well adapted for a quiet holiday when a tonic air is demanded. Mild chest affections do well here, and elderly persons find Allonby a pleasant resort. The beach is sandy, and bathing is excellent. The accommodation for visitors is fairly sufficient. Hotels—"Ship" and "Grapes."

ALNMOUTH, a small town, population about 500, situated  $1\frac{1}{2}$  miles from Bilton station, on the North-Eastern main line, between Berwick and Newcastle. It is readily reached from Newcastle or Berwick. The beach is sandy. The climate is temperate, but also bracing. Accommodation mostly in lodgings.

AMBLESIDE, in the Lake District (Westmoreland), is situated on the London and North-Western Railway system, and is 265 miles from London, and one mile from the head of Windermere. Climate mild, inclining to wet. Hotels—Waterhead Hotel, Salutation, Queen's, and White Lion.

AMROTH, in Pembrokeshire, is four miles from Kilgetty, the nearest railway station on the Great Western Railway. Air bracing. Lodgings are cheap, but primitive.

ANSTRUTHER (Fifehire) is situated on the Frith of Forth. It was the birth-place of Dr. Chalmers, and of Tennant, who wrote the humours of "An'ster Fair." It is reached from Edinburgh (twenty-five miles) by the Fife railway *via* Burntisland and Thornton Junction. The inns do not offer much accommodation, hence apartments require to be taken. The free air of the Frith of Forth is bracing, but Anstruther is too cold for those who suffer from rheumatism or chest affections.

ARBROATH, a considerable town in Forfarshire, facing the German Ocean, sixty-four miles from Edinburgh, and thirteen N.E. of Forfar. The population exceeds 20,000. The climate is, on the whole, mild. The fresh sea air is bracing, but unadapted for the weak. Arbroath has many objects—including the ancient Abbey, and the "cliffs," interesting to geologists—worthy the attention of visitors. This place is reached easily by all three main lines from England, the route being *via* Stirling and Perth. Hotels—the White Hart and Albion.

ARDMORE, in Waterford, Ireland, lies five miles from Dungarvan, and four from Youghal, whence Ardmore is reached by steamer. The climate is mild. Hotel—Hearne's. Population, about 500.

ARDROSSAN, in Ayrshire, can be readily reached from Carlisle, Glasgow, or Edinburgh. Population over 8,000. This is one of the most salubrious of Scottish seaside resorts. It is notable for the dryness of the air, the open situation to the West also giving a bracing tone, whilst Hone Island shelters the town to the East. A good pier, harbour, &c., exists. Chest diseases of not too pronounced a type benefit from residence here, and patients recovering from ordinary illnesses will find the bracing air beneficial. For growing children Ardrossan is a suitable holiday-ground, and scrofulous cases also find the sea air advan-

tageous. The chief hotels are the Eglinton Arms and the Railway Hotel.

ARNSIDE, in Lancashire, is situated 36 miles from Whitehaven. The Midland Railway conveys passengers direct, whilst the London and North-Western Railway connects with the former at Carnforth Junction. From Lancaster, Arnside is 27 miles distant. It is placed on the shores of Morecambe Bay. The beach is sandy. Climate mild and bracing. Hotels—Crown, Albion.

ASHBOURNE, with a population of over 2,000, is a Derbyshire town, 147 miles from London, and 13 from Derby by the North Staffordshire Railway. The route is *via* Stafford, by London and North-Western Railway. This place is well adapted for invalids and others demanding rest, and a slightly but not over-relaxing atmosphere. The principal hotels are the Green Man and Black's Head, Royal Hotel, Wheatsheaf, and George and Dragon.

## HEALTH EXERCISE IN AMERICAN SCHOOLS.

THE Boston Normal School for Physical Education trained and graduated 421 teachers of the new School of Gymnastics. The graduates were about equally divided between the sexes. A considerable proportion of the women were school-teachers in broken health, seeking in the new profession a better means of living. The average health of the women was, in the beginning, lower than that of the men. But, with the removal of the corset and the long, heavy skirts, and the use of those exercises which a short and very loose dress renders easy, a remarkable change ensued. In every one of the ten classes of graduates, the best gymnast was a woman. In each class there were from two to six women superior to all the men. In exhibiting the graduating classes from year to year on the platform of Tremont Temple, women were uniformly placed in the more conspicuous situations, not because they were women, but because they were the finer performers. Dr. Walter Channing, who was one of the professors in this normal school, often spoke with great enthusiasm of the superiority of the women.

A convincing experiment was made upon a large number of girls at Lexington, Mass. A school for young ladies was announced, and large buildings prepared. During four years of personal management by the founder of the school, nearly three hundred young women were subjected to a new and peculiar regimen, to determine the possibility of improving their bodies during their school life, as the bodies of young men are improved in some of the German universities. An exceptionally full curriculum of studies was adopted, and a large corps of teachers, including such distinguished names as Theodore D. Weld, Catherine Beecher, and Zerdahelyi, laboured with enthusiasm in the brain-work. The pupils were pressed harder, probably, than in any other school in New England. The girls averaged about seventeen years of age, and came from all parts of the country, including California, Central America, and the West Indies. They were largely from wealthy families—delicate girls, unable to bear the artificial life of fashionable seminaries, and were drawn to the Lexington school by its fame for body-training. The constant dress of the pupils, like that of the Normal School, was short and loose, leaving the girls as much liberty as boys have in their gymnasium dresses. The results of the physical training at Lexington are well known.

On entering the school pupils were measured about



the chest, under the arms, about the waist, the arm, and the fore-arm. The average gain for eight months about the chest was  $2\frac{1}{2}$  in.; waist, 5 in.; arm,  $1\frac{1}{2}$  in.; fore-arm, about 1 in. The work was so hard that, with all this remarkable development, the weight of the pupil was often lessened. Of course, the girls came with injunctions from mothers not to climb stairs, and with letters from family physicians urging moderation in gymnastics, and prescribing the horizontal position a number of days each month. With the corsets and long skirts in which they came, these injunctions and cautions were not unwise; but, with the change of dress, became absurd.

And now, with a full knowledge of all the facts familiar to hundreds of grateful parents, the writer affirms that, giving little or no attention to periodicity, the girls worked through the entire month in those extreme stridings, and other vigorous exercises of the legs and hips, contrived to counteract the evil effects of the long, imprisoning skirts, and that in the four years not only was no harm done by this constant and dreadful violation of Dr. Edward Clarke's counsels, but that in no instance did a pupil fail to improve in health. The results may be described as follows:—Pupils came with dread of stairs, with backache, palpitation, and other sufferings which may not be named here, and in a few months could do the full and hard gymnastic work of the school, dance three evenings a week, go upstairs without symptoms, and walk five to ten miles on Saturday without inconvenience. A common exclamation among the pupils was this:—"What a slave I was! Everything was toil and suffering. I have now just begun to live!" And all this happy change came of abandonment of corsets, the adoption of a simple, physiological dress, with the exercise which this change in dress renders easy. The change in health and capacity often seemed magical. If this paper were designed for the eyes of medical men only, certain facts might be given which would surprise them, and leave no doubt that we have utterly failed to comprehend the mischief done to the growing form by the present mode of dress.

The reader may think that camp-life in the mountains of California, a course of training in the Normal School for Physical Education, or four years' drill in the school at Lexington, will account for happy changes without any change in dress. We saw many ladies in the mountains seeking health in long skirts and corsets, and their health improved, but the physiologist will assure us that the improvement could not be muscular and radical. As to exercise in the gymnasium, the observation of thirty years in ladies' seminaries leads to the conviction that girls in corsets seriously endanger their welfare when they try to exercise beyond gentle walking and dancing. All attempts at free arm or leg work must prove mischievous. For many years we have cautioned corseted women against the gymnasium, and have seriously urged easy-chairs and lounges. The advice given by Dr. Edward Clarke, and repeated by thousands of doctors to their lady patients, to lie down as much as possible, and periodically spend a week in bed, is, if a corset be worn, not only wise and merciful, but indispensable. To ladies who declare that they cannot abandon their corsets, the writer uniformly gives the same advice.—Dr. Dio Lewis in the *North American Review*.

For girls, as for boys, avoid stays, however slight. The attitudes of children are too precious to be spoiled by stiff impediments, and how much more precious are their health and comfort!—*Mrs. Haweis, "Art and Dress."*

## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**LAUNDRIES AND INFECTIOUS DISEASES.**—The danger of sending infected linen to the common laundry without previous disinfection must be obvious to any thoughtful person; but, like many other obvious things, this danger needs to be impressed again and again upon the attention of careless householders. A laundress may, unwittingly or otherwise, be both the recipient and the retailer of infectious particles; and to her powers of mischief in both capacities the following examples eloquently testify. Dr. Cameron, of Hendon, writes that laundries are a constant and prolific source for the introduction of small-pox, scarlet fever, and other diseases. Indeed, all the cases of scarlet fever and small-pox that occurred at Hendon during the past year were either introduced by persons coming into the district with the disease upon them, or through the medium of infected clothing being sent to be washed without previous disinfection. In September, scarlet fever was introduced through this medium, and thirteen children were attacked. Another outbreak in December seemed to emanate from one of the laundries, but the children being at once isolated, the disease did not spread. Dr. Bruce Low, of Helmsley, in Yorkshire, has a remarkable experience to record. A young girl was hired to go to a house where there were two convalescents from scarlet fever, of which cases she was aware when engaged. A week after she went to her situation, she contracted the disease, and was sent home as soon as the rash was discovered. No medical advice was sought, to avoid what her mother called "bother." This woman took in washing, and as soon as the daughter was able to go about, she was sent out with the clean linen to the various houses. At one house, at least, the coppers received from the girl in change from the washing-bill were accompanied by large flakes of skin, which had peeled off the girl's hands. At the house where the scales were received with the coppers and the linen, there were subsequently several cases of severe scarlatinal sore-throat. These facts were only traced some few weeks afterwards; too late, of course, to prevent the mischief.—*British Medical Journal.*

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**DIET FOR SCURVY.**—Having had his attention drawn to a statement in a recent number of the *American Grocer* that—"It has recently been demonstrated that the apricot possesses more valuable anti-scorbutic properties than any other known fruit or vegetable, the British Government on that very account buy dried apricots very extensively." Brevet Major-General John P. Hawkins, Commissary of Subsistence, United States Army, writes to the same paper that this is the affirmation of a new knowledge or experience in the treatment of scorbutus, and further, it is the announcement of the discovery of a thing as true to-day which the army and navy experiences of long ago and up to a recent period have demonstrated to be false; that is, the theory that any dried fruit or dried vegetable would prevent scurvy, or would cure it after it had been contracted. The real cause of scurvy, the exact character of malnutrition that produces it, is not absolutely known; but this much is certain, that when a person is entirely deprived of food in its fresh state, the tendency to scurvy may naturally be expected, and a scorbutic condition is generally the result, and this condition is relieved or entirely cured



only by the use of foods containing their natural, original juices, unchanged by desiccating processes, or not materially altered by long keeping, and this is the fact, whether the food be a meat or a vegetable. In the case of meat, its greatest efficiency as an anti-scorbutic is when fresh killed, and if the stomach can stand it, best when eaten raw; or, if cooked, the process of cooking should go no further than to make it palatable. On the other hand, if the meat has been hung up for some time, if it has been kept long enough to become dried or, approximately so, affording opportunity for its natural juices to have changed in some of their elemental characters, it will have largely lost its anti-scorbutic properties. In the same way the best vegetable is best when fresh from the field and uncooked, if it can be so eaten. It is then in its best condition as an anti-scorbutic, and deteriorates or departs from that condition the longer it is kept, for its natural juices are changing day by day during its period of keeping, until finally, in a state of acknowledged decomposition, it loses all the virtues it originally possessed, and is pronounced to be no longer fit for food. The experience of the army of the United States during many years preceding the rebellion, and since then at some of its frontier stations, often deprived for months of any fresh vegetables, has shown very conclusively that there is no form of dessicated fruit or vegetable that can take the place of the fresh article, or that measurably possesses its virtues, all kinds having been tried, with always the same resultant failure. Substitutes for something fresh have proved of small account, except that they have been of benefit as an additional article of food, increasing variety in the diet, which is always beneficial, and thus fortifying the health and enabling the system to struggle for a time against the scorbutic tendency, but the latter is ultimately sure to have its culmination in scorbutus, unless fresh food can be provided for the relief of the impoverished blood, to afford it the nourishment of which it has been deprived.

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OUR DUTY IN RELATION TO HEALTH.—The duties of the rational mind and of true religion in the matter of health may be summed up in the one great contention that a knowledge of the laws of the universe should be in the possession of every man or woman with a life to live, and who boasts of the heaven-born desire to live that life well. You esteem it a bounden duty that for the furtherance of individual and national interests you should take a side in politics. And you adopt a side; but you do not choose it without weighing the *pros* and *cons* of the matter; without comparing one policy with another; without taking an historical review of how or why things political have come to exhibit their existing phases. Now, what you do in politics as a duty to yourselves, to your children, and to the State, I imagine becomes a far more important matter when the subject is one of health. The mistakes of a political leader are, as a rule, remediable. The genius of his opponent may make that a success which otherwise would have proved a disaster. But you cannot so remedy the mistakes which, as a nation or as individuals, we may commit in our health-science. The grave, like the sea, holds its dead; there is no erasing from the statute-book of health the ghastly records of this crime of indolence that brought the cholera, or of that crime of ignorance that sent typhoid fever broadcast. One duty, and one duty alone, lies before us. To it we are called by the clarion voice of truth itself, and that duty is the task of learning the laws of health; of knowing that truth which, when we follow it, so surely shall make us, in the veriest sense, free.—*Sermon on Health.*

THE neglected children of our towns are, in many cases, orphaned of one parent, or both. Few persons are aware of the vast number of widows in our midst. The great mortality among sailors accounts for much of it. Over four thousand British seamen, including fishermen, were drowned last year, most of them leaving widows or families. Liverpool is full of sailors' widows. I have been in the habit of meeting a weekly class of three hundred poor widows for some years past. Many of them have to live on less than five shillings a week, and often have to bring up children by eking out that slender allowance from charity. The children roam about the streets when the mother is from home, and much juvenile depravity comes from this source. I regard the semi-orphan children as just the class most suitable for emigration. From no fault of their own the poor mothers are quite unable to train them properly, and when they can be emigrated along with their families, with a fair chance of success, it is highly desirable. Since Miss Rye commenced in 1869, some 10,000 poor children have been sent to Canada, and with few exceptions have been absorbed into the healthy rural life of that colony, and are now doing far better than could have been brought about by any agency in the old country.—*Samuel Smith, "Nineteenth Century."*

## Our Exhibition Reports.

"There is an education for us all in the sight of the ways and works of others."—*Anon.*

### NATIONAL HEALTH SOCIETY'S EXHIBITION.

(By our own Reporter).

THE large and interesting exhibition which has been opened at the Humphrey's Hall, Knightsbridge, is a proof at once of the many-sided character of the work which the National Health Society has laid itself out to perform, and of the vast strides which have been made of late years in the application of the principles of hygienic science to all departments of every-day life. On the other hand, the exhibition shows what a good deal yet remains to be done before the food, the dress, and the houses of the nineteenth century man and woman can be said to come well within the canons of the scientific law. So little has been heard until lately of the National Health Society, that it will surprise that large class, who only take the most general interest in sanitary subjects, to learn that it has been at work in an unobtrusive but useful fashion for twelve years. Already it has begun to reap the fruits of its labour in more than one direction, and it is sincerely to be hoped that this, its first exhibition, may receive such an amount of public support that it may become an annual institution in this metropolis, and may contrive to be held until every class of the community has learned, at least, the alphabet, so to speak, of sanitation. The seven classes into which the exhibition is divided, embrace such an infinite variety of articles that it is difficult to say what is *not* to be seen at Humphrey's Hall just now; and, whilst we propose in the course of these articles to deal with each department *seriatim*, we may mention here that their classification is as follows:—

1. Clothing. 2. Food Products. 3. The Sanitation of the House, and Hygienic Decoration. 4. Appliances for the Sick-room, Nursing, and Home Education. 5. Industrial Dwellings and Cottage Hygiene. 6. Heating, Lighting, and Cooking Apparatus Fuel, and Appliances.

There is also a seventh class, composed of exhibits of inventions by amateurs relating to any of the above groups;



and in order to encourage amateurs to display their designs, the Committee have wisely decided that selected exhibits shall be admitted to this class without charge for space. The number of applications for show room was from the first considerably in excess of the somewhat limited area of the hall, and not a little difficulty was experienced in arranging the stands in an intelligible manner; but thanks to the skill of the manager, Mr. E. J. Powell, this problem has been successfully solved, and although the hall is crowded, visitors will find it comparatively easy, with the aid of the admirably-arranged catalogue, to inspect the whole of the exhibits.

A good many circumstances have of late given a fresh impetus to the movement for reforming women's dress, and it is natural, therefore, that considerable attention should have been given to the subject in laying down the lines of the Health Society's Exhibition. The "Rational Dress" display at the Princes' Hall, which has just closed, seems, in some instances, to have gone rather too much in advance of the times, and by boldly advocating undisguised trousers, if the term may be used, for the fair sex, has provoked a good deal of cheap sarcasm. But the wifings who visit Humphrey's Hall with the intention of finding fresh material for poor jokes at the expense of dress reformers will search in vain, for all the dresses are sensibly made, some are very elegant, and none offend, in the least degree, any of the laws of good taste which society has been accustomed to apply to the question of the distinctive attire which should be adopted by the sexes. True, some of the more ardent of the feminine reformers—the revolutionaries of their sex—have boldly carried the war into the opposite camp, and have attacked, with more or less justice, the stiff collar, the open waistcoat, and the cut-away coat of the civilised man of to-day; but views such as these have found no expression in the Health Society's Exhibition, and a West-end tailor, unlike the milliner and dressmaker, might walk through it from end to end without seeing anything to disturb the sartorial faith in which he has been reared. Then, again, there are a large number of hygienic and rational boots exhibited, which, it is almost needless to say, have neither pointed toes nor high heels; and specimens of every other description of over and under-clothing are shown, all of which will be noticed as we examine the various classes of exhibits.

The first class is that devoted to clothing. This class includes stuffs (shown in relation to design, material, and dyes), dresses, underclothing, vests, boots, shoes, stockings, and head-coverings. The two largest stands in the Exhibition, situated, too, in a prominent position in the centre of the building, are occupied by the Rational Dress Society and Messrs. Hamilton & Co. In the former are several examples of the divided skirt, the materials and cost of each graduating from a working woman's costume to a very pretty demi-toilette and a lady's walking dress. In all but the working dress, the divided skirt is covered by an over-skirt of the same material, and, save that in the specimens exhibited there is none of the superabundance of material which is the distinguishing characteristic of the existing fashion, there is nothing in these dresses which would lead the uninitiated to suppose that they were of anything but the normal design. It is an easy matter, too, for evening wear to attach a train to the "Rational" dress, but the society, we believe, have not yet designed any complete form of evening or court dress. The reason probably is, that so long as a lady's so-called "full dress" is made so, leaving a great part of the upper portion of the body unprotected, and so long as Royal mandates enjoin such attire on state occasions, so long will it be useless for the Rational Dress Society to attempt to

devise any form of female clothing which shall be free from this cardinal defect. The "working woman's dress" which is exhibited on this stand is especially worthy of notice. It appears to be made of a variety or kind of blue serge, the skirt consisting, in fact, of two very wide skirts, so trimmed and constructed as to retain, to a large extent, the appearance of a working woman's ordinary garment. A cardinal-coloured scarf draped round the upper part of the skirt, or rather skirts, adds to the appearance of this dress, the cost of which, it may be mentioned, is under ten shillings, whilst its weight is only some two pounds seven ounces. Of course, the cardinal article of the Rational Dress faith, viz., that the weight of clothing should be borne from the shoulders, is rigidly adhered to. The Society also has a sufficiently striking Turkish costume, but whether the object of displaying it here is to show what, in the course of the evolution of dress, the British female of the future may look like, we are unable to say. The adjoining and larger stand, as we have said, is occupied by Hamilton & Co., artistic and hygienic dress and clothing manufacturers, 27, Mortimer-street, W., and it is decorated by Messrs. Liberty & Co. The firm of Hamilton & Co., some of our readers may be aware, was started a few years ago by Miss Hamilton, Mrs. Simcox, and other philanthropic ladies of independent means to introduce the principle of co-operation into sempstresses' work, but the concern has now developed a wider range. It shows a very pretty "Harberton" costume, made of a soft grey material, and purchased almost as soon as the Exhibition was opened by Mrs. John Holland. The public have recently heard somewhat of this costume, the principal feature of which is that the skirts are not overtopped by a second ordinary skirt. In this case, the skirts or trouser-legs are made with deep kilts, and so arranged that they fall into each other, as it were, and give the appearance of an every-day sort of walking costume. Hamilton & Co. exhibit also a Greek dress, designed by Mrs. Pfeiffer, which, as it is a bold attempt to introduce into this prosaic age the principles on which Athenian sempstresses "built" the costumes of the ladies of that day, deserves a few words of notice. We should probably be considered presumptuous were we to undertake to pronounce a decided opinion upon it; so, beyond saying that it appeared to us rather graceful, although somewhat too striking, judged by the prejudices which modern dress has inspired, we will let the inventress speak for herself. Mrs. Pfeiffer claims for this classical costume "as much of the grace of natural drapery as has been found of practical attainment without undue singularity;" that it can be easily made to follow the changes of fashion within reasonable limits; that the waist being partially concealed, the effect is in no way improved by pinching it; that it is easily packed and washed; and that "the shawl, or scarf, which forms the drapery, and which, worn over the simple under-dress, takes the place of all those fantastic additions coming under the head of trimmings, offers a field for decoration of a nature less stultifying to the executant, less burthensome and inconvenient to the wearer, than the puffings, pleatings, beadings, buglings, and "catchings-up" with bows and buckles in arbitrary places, which cause fashions, the delight and wonder of to-day, to become the joke of to-morrow." Messrs. Hamilton also exhibit some very simple but pretty tricycling dresses, and, in order to show their complete adaptability for the purposes for which they are intended, a young lady illustrates the freedom which the dress gives her, and the skill she herself possesses as a 'cyclist, by riding what is known as an "Otto" bicycle along the narrow passages between the Exhibition stalls. This bicycle, it should be stated, consists of two large wheels, the rider being seated



in the centre, as is the case with a tricycle. Hamilton & Co.'s displays, it may be added, do not, with the exception of the Harberton costume, follow the lines of the Rational Dress Society, but consist of the dresses of a more ordinary pattern, but made so as to obviate the use of corsets, and to throw the weight of the clothing from the hips on to the shoulders. Some of the costumes are exceedingly pretty in appearance, especially some lawn-tennis and evening dresses. Another of their *spécialités* is the manufacture of children's frocks—one, called the "Garibaldi" frock, made in one piece from the neck to the skirt, including the sleeves, being a very effective and, withal, sensible present for a child. Another feature in their somewhat extensive show, is a complete mountaineering costume made of wool, of which it may be said that, whilst it offers perfect freedom of movement to a robust lady fond of hill-climbing, its general effect is not such as would recommend itself to a connoisseur in feminine costumes.

THE following is a list of some of the prizes that have been awarded. There has been a little delay in issuing the full list, in consequence of which we are unable to publish the awards in all the classes. The decisions of the judges in the remaining three sections will be given next week.

CLASS I.—*Silver Medals*.—Hamilton & Co., the Harberton costume; Mrs. Pfeiffer, the Greek dress; Mr. T. J. Goodman, general excellence of make and design; Messrs. Howie & Marshall, excellence of hygienic boots; Messrs. T. & H. Steele, hygienic corsets for adults; Mrs. Ann Wise, elastic chest-expanding corset and riding and nursing corsets; Wentworth & Co., life-saving garments; Mr. Wm. Hall, hygienic qualities of boots and shoes. *Bronze Medals*.—Messrs. Hamilton & Co., child's frock; Rational Dress Society, economy and general suitability of working woman's dress; Miss Beck, general excellence; Rational Dress Society, designs for underclothing; Mrs. A. Bauer, general excellence and superior workmanship; Mrs. T. Taylor, excellence and design in infant's clothing; Messrs. Morris & Co., quality, manufacture, and design of dress silks; Messrs. Liberty & Co., quality, manufacture, and colour in dress-stuffs; Waukenphast & Co., boots and shoes. The prize of £5 offered in this class has been awarded to Messrs. Pocock & Co., for cheapness, form, and make of boots for working women and children.

CLASS II.—*Silver Medals*.—Aylesbury Dairy Company, artificial human milk; Burroughes, Welcome, & Co., cap-suled pills and wyeth compressed tablets; Fellow & Sons, lime-juice; W. Hill & Sons, home-meal preparations, especially finely-ground whole meal; Messrs. A. & F. Pears, soaps; Messrs. P. & P. W. Squire, malt extracts; the Sanitas Company, sanitas oil and emulsion; M. Eugène Rimmel, general exhibits; Mr. P. A. Maignen, the "Filtre Répide"; Messrs. F. C. Calvert & Co., preparations of sulphur carbolates. *Bronze Medals*.—Aylesbury Dairy Company, "Koumiss"; Burroughes, Welcome, & Co., "Hazeline" and elixoids; Australian Wine Company, muscat and Sauvignon wines; J. Edmunds, curry, custard, &c., powders; P. & P. W. Squire, respirators of good and cheap construction, and improved medicine chests; Jeyes Sanitary Company, exhibits of sanitary compounds.

CLASS IV.—*Silver Medals*.—Messrs. Jas. Allen & Co., ventilating croup or steam-draft kettle; Mr. N. Nixon, bed-pan cage. *Bronze Medals*.—T. W. Stidolph, elastic cloth sacking bedstead; Messrs. Chorlton & Dugdale, "Excelsior" spring invalid couches; Mr. Hansell, movable bed-table and shelf combined; Messrs. Benyon & Cox, Turkish bath on Cox's pure-air principle; Mdme. Rubens,

model urinals for children and invalids; Miss McMullen, ingenuity displayed in adapting electricity to the hair-brush.

(To be continued.)

## SANITARY APPLIANCES, ETC.

MESSRS. WOOLLAM & Co.'s WALL-PAPERS.—This firm (of 110, High-street, Manchester-square) has produced non-arsenical papers of elegant design and choice colouring. The analysis of Messrs. Woollam's products shows their freedom from arsenic and all other noxious pigments. This result is attained simply by the purity of manufacture, and the entire absence from that process of any ingredients likely to become volatilised by the heated air of rooms. Messrs. Woollam's papers can be strongly commended. Samples in our hands have confirmed the opinion long ago pronounced regarding the absolute safety with which Messrs. Woollam's papers can be used. It should be added that, for richness of design and chasteness of colour, these papers take the highest rank as specimens of decorative art.

MACNIVEN & CAMERON'S PENS.—These pens are now so well-known and so highly esteemed, that it is almost superfluous to say anything in commendation of their qualities. Those who write for the press especially, and who have to encounter the difficulties of making legible "copy" on papers of all degrees of smoothness, will find in these pens an immense aid to easy and convenient penmanship. The "Pickwick Pens" please us particularly well, and glide over rough paper with the pliancy of a quill. From a sample box of pens, the most fastidious of penmen (or penwomen) will be able "to choose the one that they like best," as the children say.

"SPARKLING EMS TABLE WATER."—Mr. Massingham, of Union-court, Old Broad-street, sends us samples of the above water. This water is but faintly alkaline in its nature, and contains bi-carbonate of soda as its chief mineral constituent. As a sparkling, clear, and agreeable table water for use with meals, this water has few equals. Persons troubled with acidity will benefit materially from its use; and gouty and rheumatic subjects will find it an adjunct to their medical treatment. Bilious subjects may take a tumblerful of this Ems water, warm, on rising in the morning, in place of aperients; whilst as a summer drink of safe and palatable kind, we regard this water as deserving special mention.

BOWER'S POTATO STEAMER.—We have tried this simple and useful invention, sold by Messrs. Groom & Co., of Liquepond-street, E.C., and can speak very favourably of its utility and merits. By a simple contrivance, the "steamer" is lifted above the water-surface and the potatoes receive the full benefit of the process. Potatoes cooked in this way are certainly more pleasant to the taste; and, what is vastly more important, however, they are more digestible than when simply boiled. The "steamer" has the merit of being cheap, and is of strong construction.

JEFFREY & Co.'s NON-ARSENICAL WALL-PAPERS.—The occurrence of arsenic pigments in wall-papers, not only of green hue, but of many other shades, has been frequently proved to be a source of serious ill-health in houses. Messrs. Jeffrey & Co., of Essex-road, Islington, N., having asked Mr. Alison, late chemist to the Royal Arsenal, Woolwich, to analyse their colours, metals, and wall-papers in stock, now publish the results of that gentleman's investigations. As might be expected from a firm of their standing, the wall-papers of Messrs. Jeffrey & Co. are entirely free from arsenic or other injurious ingredient.

## BOOKS, ETC., RECEIVED.

*Handbook of House Sanitation*, by EARDLEY BAILEY DENTON, C.E. (London: Spon.) *Sanitary Contrasts of the Crimean War*, by SURGEON-GENERAL LONGMORE. (London: C. Griffin & Co.) Fifth Annual Report of the Connecticut State Board of Health for year ending Nov. 30, 1882. (Hartford, Conn., 1882.) *Notes from Sick-rooms*, by Mrs. LESLIE STEPHEN. (Smith, Elder, & Co.) *The Great Anti-Crinolette League*, by V. LESCIBLÉUR. (Wyman & Sons.) *A Manual of Nursing*, by Dr. CULLINGWORTH. (Messrs. J. & A. Churchill.) *How to Prolong Life*, by Dr. DE LACY EVANS. (Baillière, Tindall, & Cox.) *On Failure of Brain Power*, by Dr. ALTHAUS. (Longmans & Co.) *A Physician's Sermon to Young Men*, by Dr. PRATT. (London: Baillière, Tindall, & Cox.) *Poems and Ballads for Penny Readings*, by AGRA. (Wyman & Sons.) *Commercial Products of the Sea*, by P. L. SIMMONDS. (Griffith & Farran.) *Kallos; a Treatise on the Scientific Culture of Personal Beauty, &c.*, by A FELLOW OF THE ROYAL COLLEGE OF SURGEONS. (Simpkin.) *Progress of Dentistry*, by Dr. WEDGWOOD. (C. L. Marsh & Co.) *National Health Society's Tenth Annual Report*, and various Pamphlets published by the Society.



## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply.

All Communications, &c., intended for the EDITOR—including Books for review, Sanitary Reports, Abstracts of Papers, specimens of Sanitary Appliances, &c.—to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

To CONTRIBUTORS.—The Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

THE EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.

### COMPULSORY INOCULATION FOR VACCINATION.

SIR,—In the last issue of your exceedingly valuable and interesting publication (HEALTH, p. 99) on the above subject, allusion is made to the letter of Dr. W. Carpenter in the *Daily News* of May 12.

As a reader of HEALTH, and having devoted some little attention to the administration of the "Vaccination" Act of 1867, I would ask you, in fairness to the respective views of the public, to allow space for the enclosed, being the question under its legal aspect.

There are three distinct views with regard to that Act, which in its compulsory form affects every child and the feelings of the parents thereof:—

1. The compulsory power given to the local authorities and their subordinate officials and agents.
2. The objection to "vaccination."
3. The substitution of "inoculation" for "vaccination," the former being an illegal operation under the penal clause of the Act, 1867, sec. 32, fourth paragraph at foot of "Notice" for vaccination stations, and in the "Instructions" to public vaccinators.

This last view is the one I alone venture to urge in support of the objection of the working classes when before the Justices of the Peace for non-compliance with the illegal operation. Vaccination is not performed in strict accordance with the Acts of Parliament of 1867, 1871, 1874, and the regulations issued by the Medical Department of the Privy Council, or the instructions of the Local Government Board. Only when non-compliance with the Acts making vaccination compulsory is proved, can magistrates exercise their powers as to penalties, costs, seizure of goods and chattels, and, finally, imprisonment. Vaccination was unknown at the period of the compilation by Dr. Johnson of his dictionary of the English language, 1793, inoculation of human pox, as clearly defined by that great authority on the meaning of words, being then the only method for protection against the epidemic of small-pox, and this operation was performed solely at the will of the patient, or parent. In 1820, Todd's dictionary was the first to give the word "vaccination" with its derivatives, and distinctly relating to cow-pox. Walker's dictionary, 1854, repeats exactly what the two former say. In each of these three works "vaccary—a cow-house, a cow-pasture," is additional proof that "vaccine" cannot be construed to mean other than "of or belonging to the cow." Passing to foreign dictionaries, that of the Italian language, by Barberi, 1854, being the purest derivation from the Latin tongue, and there the definition of "vaccina" corresponds most faithfully with that in Todd's, of which Walker's must be a true copy. The dictionary of the

French Académie, with its forty chairs filled by the recognised talent of the period, was the only and sole authority for the construction and compilation of the dictionary of the French language, and therein the definition of the word "vaccine" is precisely that of the Italian, of which the French is properly the sister tongue, each having for their parent the Latin, with which there is in every feature the most perfect likeness. The enforcement of the compulsory clauses of the Acts by the magistrates is in no way whatever lawfully administered so long as the vaccine is not proved to the patient, or parent of the infant, that it is really and truly that prescribed by Dr. Jenner and required by the Vaccination Acts of 1867, 1871, 1874. In the regulations issued to the local authorities, every care has been taken by the Government and Parliament, in providing compulsory legislation, to express the determination of carrying out the Jenner system by the repetition of the word "vaccination" (and its derivatives in the three Acts to the number of 283 times for all the requirements of the Acts) without in any one single instance varying or altering that designation to justify inoculation of olden time, "human lymph" for "cow-pox." The Adulteration (Food) Act provides by heavy penalties and imprisonment against the substitution of ingredients for the entire genuine article asked for, by which is instanced the illegality of enforcing inoculation of "human" disease in substitution for "cow-pox."

Allow me to observe that I appear for the defendants in such cases entirely at my own expense, convinced of the illegality of the proceedings; and although I do not oppose the Act, I would rejoice to see the compulsory power repealed, in consequence of the painful results on record.—I am, Sir, your very obedient servant,

C. E. PARKER-RHODES.

S, Greenhill-park-villas, Harlesden-green, N.W.,

May 27, 1883.

### QUERIES AND ANSWERS.

Various Queries and Answers are invariably held over.

### SANITARY.

W. H. H.—Yes; place the outlet near the ceiling, for the hot air in rooms rises, especially when gas is burnt. A valve into the chimney is a favourite plan, one or two feet from roof. As regards inlet, opinions vary with the system practised. If the rooms are above ground-level, you may place inlets near the floor. It is best, as a rule, to avoid ground air. Why not give Hinckes Bird's simple window system a trial, and save all expense of breaking your walls?

T. R. STREET.—We have been unable, after diligent inquiry, to ascertain the maker's name. Can you supply us with any references, or say where the apparatus is in use? We shall do our best to oblige you.

### MEDICAL.

LUCY.—The dark part in the centre of the eye is the *pupil*, which is really the opening into the eyeball. We do not quite understand your question. Does the "swelling" or "glittering" you mention cause pain? Belladonna is often foolishly applied to cause dilatation of the pupil.

ST. ROLLOX.—The Medical Act of 1858 (21 and 22 Victoria, cap. 90, sections 40, 41, and 42), provides for the prosecution of anyone "who shall wilfully and falsely pretend" to be a registered medical practitioner. Under section 41, the Procurator-Fiscal in Scotland may take action against such an offender (the penalty is £20, or imprisonment not exceeding three months); but "any other person" may proceed against the offender, before a sheriff or two justices, by petition and complaint. It appears that the phrase, "wilfully and falsely pretend to be or to take or use the name or title of a physician," etc., etc., is liable to raise a difficulty in procedure, and quacks often escape under a legal quirk, by showing they have not pretended to be what the Act forbids. Hence they style themselves "Professors," and so forth. The "Medical Register" is the official volume; but the "Directory" is practically authoritative.

KEZIA.—The medicines you name may be given under the circumstances. Any druggist will add the necessary quantity of iron to the oil.

J. TYTLER.—We are afraid your impression regarding the parasites is wrong; but try the effect of a solution of one part acetic acid to twenty of water, applied to the hairs daily. Then wash freely with soapsuds night and morning. See also to your clothing.



**A. C.**—Rub the parts thoroughly every night with flannel and soft soap. Wash off the soap with soft water, and then apply a lotion composed of—precipitated sulphur,  $\frac{1}{2}$  oz.; camphor, 20 grains; gum acacia, 40 grains; lime water and rose water, of each 4 oz. (shake well). This lotion may make the face smart, or even sore, but the acne pimples will be removed thereby. If the spots disappear, leave off the soap, and use hot water to the face; the lotion being applied after washing at night. Keep early hours and avoid stimulating foods.

**R. FOREST.**—From your account, we should say have the tooth taken down. There seems no reasonable probability of its again becoming useful, and the pain you suffer is itself a sufficient warrant for our advice.

**PERCY ASHLEY.**—The affection is not at all dangerous. Avoid exercise of a violent nature. Try the effect, firstly, of support with a bandage; secondly, bathing with cold water; and, thirdly, of aperients (e.g., *Æsculap Water*), adapted to prevent any congestion of the internal veins.

**JOHN MACPHERSON.**—Tea taken with food, or immediately after meals, is by no means conducive to good digestion or to health. We should say, give up the "meat-tea," and take the tea alone later on. Take a solid dinner, using thereto any beverage you find agree with you, but leave tea and coffee for after use. Constant tea-bibbing is a common cause of indigestion.

**DENTIST.**—Do not worry yourself. You are in perfect health, and your symptoms are nothing more than may be expected from one in robust health. Do not be persuaded by any one that you are ill.

**H. C. W.**—We think you should cease bathing—for awhile, at least. Your symptoms indicate you are a little out of sorts. See what a change of air and a slight tonic will do for you. Try the bath again after an interval, and don't wet your head. See Mr. Williams's note in this number.

**MARLIN-SPIKE.**—(1) Tea-drinking (as you put it) undoubtedly tends to digestive weakness. Try a little good claret and water in preference to the tea in the mornings. We might suggest you to try a fruit breakfast—apples, oranges, grapes, bread, &c., with a little light wine, as common beverages do not agree with you. Have you tried skim-milk? (2) The change of dietary will cure your sleeplessness. See to your ventilation in bedroom. A dose of *Æsculap*, or sparkling Ems Water, occasionally should relieve your biliousness.

**MUSCLES.**—Your case is one which a visit to, and a week or ten days' treatment at, the Zander Institute, 7, Soho-square, London, would benefit (see *HEALTH* No. 6, page 95). You require a constant and well-applied system of muscular exercise, adapted to give your muscles and joints tone. See to your general health. Try hot sea-baths.

**HESITANS.**—We strongly advise you to try the effects of a vegetable or vegetarian dietary for a time. The habit of constantly taking aperients is very injurious; and a complete change of dietary should cure you. We do not see there is any need for you to leave your business. Have you tried small doses of "*Æsculap Water*"? See that your diet is light; try white fish occasionally, salad with plenty of oil, &c., and do not allow yourself to become hypochondriacal.

**BLACK.**—The affection you name cannot be expected to disappear until after a term of years. The treatment you have been ordered is correct. You must simply be patient and attend well to general health, clothe warmly, and live temperately. Any symptoms which arise should be specially combated under a surgeon's care.

**No. 103.**—See reply to "*Æthol*," in No. 8 of *HEALTH*. There is neither danger nor disease present. Live well and keep an easy mind. There is no reason, so far as we can see, against the step you contemplate taking.

**BELPHEGOR.**—We repeat our advice to you, which is that of your physician also. You acted foolishly, because, when you might have overcome by a mental effort, you succumbed (as we read your letter) to your weakness. You evidently exaggerate your symptoms. Live moderately, but well; take moderate exercise, and leave the rest to nature. If you care to try Pulvermacher's appliances (the only genuine electrical belts we know), you may possibly be benefited thereby. But your cure must be as much a mental as a physical one.

**JOHN CLAY (Partick).**—[Your name is indistinctly written in your letter. This is the nearest approach to it we can give.] Alcohol is not a necessity for the healthy adult body; it is absolutely injurious to the young. We cannot answer your inquiries about the relation of habits and constitution to the prolongation of life. All that can with safety be said is this: that if you find you continue in perfect health without touching alcohol, then by all means rest assured total abstinence will never shorten your life by an hour. He who is wise will adapt himself to all the circumstances of his constitution and surroundings. One man may by partaking of alcohol at meals improve his digestion and lengthen

life; to another, such a mode of life would prove injurious. Learn the law of your constitution, and act up to it, giving temperance, if not abstinence, the first chance, at least, in your experiment.

**EDINA.**—Flushing of the face after meals is a symptom of digestive disturbance. Attend to your health. Eat slowly, and rest after meals for at least an hour, if possible. Try light food (white fish, vegetables, fruit, milk, &c.) for a time. Leave off all stimulants. If not relieved, write again, stating habits, food, &c.

**NEMO.**—See replies to "*H. V. THOMPSON*" and *ATHOL*, in *HEALTH*, No. 8.

**N. N. K.**—We sympathise much with you. Your case is eminently curable, and your ailments are as much of mental as of bodily origin. Study the replies and advice given to "*RICKARDO*" (No. 5 *HEALTH*), "*CHARLES H.*" and "*YOUTH*" in No. 6, and to *NEMO* above. We will be glad to assist you further, but advise you to follow the counsels given.

ψ η.—See reply to "*NEMO*" and "*N. N. K.*"

**E. H. B.**—Yours is a curious and not very common case. We should like to be supplied with particulars of your health, &c. But such cases of loss of a sense for particular objects are usually due (it is only fair to say) to some obscure nervous cause. Send name and address as well. Our present advice is to see a specialist in nervous diseases, who, by thorough examination, might be able to detect even a local cause for the loss of taste.

**JAMES A. JONES.**—Send us the date and number of *HEALTH* in which you saw the reference, and we will see if we can give you the name of the book you require. We cannot find the reference in *HEALTH* you speak of.

**G. MITCHELL.**—We think you were in very good hands in the matter of the operation. These cases are often tedious. We should advise you to see the surgeon again, both in justice to him and to yourself. He certainly ought to see the results of treatment, and it is certain he would wish to do so. The other gentleman you name is, we believe, regarded as skilful and well qualified.

**AN ANXIOUS ONE.**—We fancy the sea trip will suit you best, provided you are not too weak. Read our article on "*The Sea as a Means of Cure*" (*HEALTH*, No. 9), and then judge for yourself. If too weak, residence on the East Coast, as at Aldborough, Suffolk, would suit you. If Folkestone suits you, there can be no hesitation in recommending you a bracing sea trip, such as Norway or Heligoland would offer. But for the latter you must be prepared to clothe warmly. In Norway most of the travelling is done by *carriole* or cart. By all means try the sea, and leave Switzerland for another time.

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All subscriptions are payable in advance.

*HEALTH* will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JUNE 22, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE Grocers' Company have determined to encourage research into the cultivation of vaccine matter. They offer their first £1,000 prize for the solution of the problem, how, the vaccine principle may be cultivated apart from the animal body in some medium not otherwise "zymotic" (*i.e.*, allied to the infective and contagious diseases in its nature). The method of cultivation is to be such that the vaccine matter may be multiplied indefinitely by such cultivation through successive generations, and that the product will thereafter prove itself as strong and potent as the "standard vaccine lymph." The idea underlying these conditions is that of securing a safe vaccine-matter, free from all the objections connected with disease-propagation, which are now entertained by many regarding lymph as commonly used.

\* \* \*

A PLEA for light and air, and the joys of the sunshine, grass, and flowers, for the poor of our cities. The Rev. H. A. Mason, of Mile-end, New-town, E., appeals for a share of the joys of this fair outer world for the poor. He asks help to make beautiful a piece of ground which has just been opened for the enjoyment of the denizens of the slums and courts of Mile-end, New-town. Those who have gardens of their own can, perchance, realise the health-work which may be accomplished amongst the poor, by giving them breathing space in the open air, where, after the labours of the day, they may inhale a little of that health-giving oxygen which the close atmosphere of their own homes denies.

\* \* \*

SPEAKING of fresh air and flowers, we are glad to see our contemporary, the *Standard*, making an appeal to those who have it in their power to give the poor children of our cities an occasional day in the country. Only those who have come much in contact with the children of the alleys, know how a day in the country is looked forward to, and spoken of for months thereafter, as a glimpse of fairyland. There are hundreds of large landowners near

our towns and cities who might place a park or a wood at the disposal of the clergy and others who superintend these excursions. A little light and joy thrown into the lives of these city children, means much more in the way of health and reform than the best of us can realise.

\* \* \*

THE Ascham Society recently did a wise and admirable thing when it petitioned Government to include health-science in the list of subjects for which grants are made to those students who appear and pass at the Science and Art Examinations therein. The Lords of the Council have agreed to the request of the Ascham Society; and henceforth students will be enabled to present themselves for examination in sanitary science, those who are successful receiving Government certificates as a recognition of their knowledge of health-laws.

\* \* \*

SANITARY Inspectors, and many others less directly connected with the active pursuit of health-science will now possess the means of acquiring authoritative recognition of their knowledge. We may also expect to see the senior pupils from our schools appear, in time, for examination in their knowledge of the art of prolonging life. The action of the Department in including health-science as a topic of examination will do much to encourage the study of the laws of health, and we may express the hope that in the pages of *HEALTH* there will be found many papers calculated to serve as educative aids in the pursuit of one of the most important studies in which man can engage.

\* \* \*

AN interesting question has recently been raised in medical circles, under the inquiry, "Can scarlet fever be evolved from diphtheria?" From all we know regarding the variations to which such diseases are liable, the possibility of such an occurrence is hardly to be questioned. Naturally, it is highly difficult to pronounce an opinion regarding the infection in a case wherein scarlet fever follows diphtheria, seeing that possibly the patient may have been exposed to double infection. Medical experience, however, seems to point at least to some obscure connection existent between these diseases. Cases are certainly known in which scarlet fever has followed diphtheria. The throat affection, which is so prominent in both fevers, may possibly suggest some unknown and common ground or origin, from which both develop in their own and special lines.

\* \* \*

A CURIOUS attempt at solving the burial question comes from Berlin. It is said that by the application of Portland cement a dead body can be transformed into an imperishable, enduring, stone mummy. In this fashion, bodies, it is said, could be pertified into square blocks, and these used in building a necropolis, *en bloc*, so to speak. We have heard a good deal about the preservation of the ashes of our ancestors in urns after cremation, but the idea of building the dead into huge blocks of masonry has certainly the merit of novelty, if it cannot present any other and more acceptable feature for notice.

\* \* \*

In an early number of *HEALTH* we called attention to the epidemic of typhoid fever which was then raging in Paris. Recent advices seem to show that the "gay capital" is again being similarly afflicted. During the week ending June 7th no fewer than fifty-three deaths were registered as due to this disease. Of these, six



occurred in one locality. The "bad smells" of Paris have re-appeared with all their wonted summer strength. The sooner the Paris Municipality puts the lessons it has already received into practical shape, the better will it be for all concerned.

\* \* \*

To be stung by a bee is admittedly a painful accident, but it is not one, at the same time, to which we are usually given to attach serious importance. Lately, however, the newspapers recorded the death of a farmer, aged 59, from such an accident. Within half-an-hour after the receipt of the injury to his eyelid, the unfortunate sufferer died in a state of collapse. We strongly suspect there must have been special circumstances—probably of nervous nature—in this case, favouring such a result. This view is rendered the more tenable by the fact that, when stung on previous occasions, the sufferer had exhibited extreme prostration.

\* \* \*

LEPROSY appears now to be capable of being admitted within the circle of diseases for whose origin we are indebted to those specks of living matter, the *bacilli*, which have been described in our articles on the "Germ Theory." Dr. George Thin, in an elaborate paper, has shown that a *bacillus*, of the same size as that found in consumption, is invariably associated with leprosy. The infectious nature of this terrible malady, may be explained on the plain theory of its plant-origin. It would appear as if there was literally no end to the influence of the *bacilli* in the production of disease.

\* \* \*

OUR American cousins are evidently alert in their recognition of the importance of possessing the "ready where-withal" for the purpose of combating infectious diseases. An "Epidemic Fund" of 100,000 dollars, which is to be used at the discretion of the President of the United States, will be employed in case of actual or threatened epidemics. State or Local Boards of Health will be assisted from this fund, not merely to arrest, but, what is far more to the point, to prevent the inroads of disease.

\* \* \*

OUR comments upon the necessity for plainly labelling all bottles containing carbolic acid, when used for disinfecting or other purposes, are illustrated once again by a fatal occurrence which happened at the Bridgewater Workhouse. An inmate, who was ordered a black draught, was handed carbolic acid by mistake. The man died; but such a result could scarcely be conceived possible had the bottle been plainly labelled, or had ordinary attention been paid to the substance itself. It is strange that the strong, and almost nauseous, odour of carbolic acid should not arrest attention in such cases. There must have been ignorance or carelessness exemplified in the dispensing of the "black draught," where such a preparation could be replaced, without exciting comment, by carbolic acid.

\* \* \*

OWING to continued pressure on our space, we have been compelled to omit the usual article on "The Body and Its Structure" for this week.

---

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## Original Essays

"Life is not to live, but to be well."—*Martial*.

### HOW ANIMALS DOCTOR THEMSELVES.

#### PART II.

BROKEN ribs, says Mr. Lucas, as may be supposed, are of frequent occurrence, and are found not only among land animals but among the whale tribe, which one would naturally suppose to be removed from the danger of such accidents. A specimen of *Hyperoodon*, twenty-two feet in length, bore evidence that two of its ribs had been broken, and that, too, after the animal had arrived at maturity. We have seen both the moose and elk with ribs broken and perfectly reunited, and an echidna, or porcupine ant-eater of Australia, had completely recovered from a fracture of no less than six ribs. One might imagine that snakes, with their many slender ribs, would be particularly liable to injury; but such does not seem to be the case, although we have met with one which had sustained a dislocation of the vertebral column without apparently more serious results than a permanent crook in the back. Turtles, to whom a broken rib must be a rather serious affair, are not infrequently found with sadly distorted carapaces, showing that, like Lady Jane, they must have been "crushed" at some time. We saw one specimen of *Malacodermys palustris*, which seemed to have been run over by a wagon when young and had four ribs and three joints of its spine broken, and yet had recovered completely from these injuries. Such recoveries as this recall Magendie's remark, that in recovery from sickness "Nature does much, good nursing much, doctors devilish little." To have a tail interrupted that should have been continued, is a comparatively harmless accident, and one that not infrequently happens, although sometimes the results are peculiar. Gunther figures a Pike very much abbreviated and very odd-looking, and a Mud Turtle, brought to us last summer, had a tail terminated by a ball nearly an inch in diameter. There may be introduced here the story of the Elephant Rats, from Algeria, which resembled the ordinary rat, except that its nose terminated in a proboscis nearly an inch in length. The species proved to be the creation of some enterprising French Zouaves, who whiled away their time by grafting the tail of one rat into the nose of another, and when they had united, cut off any required length of proboscis.

Turning from one extremity to the other, there are two cases in which an animal's jaw had been broken—one an Indian Wild Hog (*Sus cristatus*), and the other a small deer. In the first case the union of the fractured parts was complete; while in the second instance the broken edges were still separated, although the bony overgrowth had increased that portion of the jaw to four times its original size. Not only do Orangs break their legs, but it would seem that they occasionally break their heads also, since among various specimens examined, there was one showing an ugly-looking dent in the skull, which must have been caused by some fracture healed long ago without trepanning. All of the above-noted cases were apparently caused by accidents with which man had nothing to do, except possibly in the case of the three-legged porcupine, but the few succeeding examples illustrate recoveries from gunshot wounds: One interesting specimen was an



Orang with a bullet imbedded in its jaw and almost completely hidden beneath newly formed bone. A mountain sheep exhibited a somewhat similar case, having the ball firmly fastened in its ankle. A more peculiar example was related to us by a friend, who extracted from the upper arm bone of a bird a shot which had pierced one side and lodged in the air cavity of the bone. Afterwards the hole had completely closed, and the injury would have escaped notice had not attention been called to it by the rattling of the bone. The shoulder-blade of an elk, bearing a partially closed perforation, bore witness to the fact that its owner had escaped death once, only to fall under a second and much later shot. In an incident which deserves special mention, the skull of an elephant had been pierced through and through by a ball, without death having ensued; but this is not so remarkable as it might at first seem, since the course of the ball was through the air cells above the brain cavity, and the wound probably caused nothing more than a severe headache. The conclusion drawn from these varied instances is, to let well enough alone, and in case of injury merely to see that nature is not too much impeded by art.

The warrior ants have regularly-organised ambulances. Latreille cut the antennæ of an ant, and other ants came and covered the wounded part with a transparent fluid secreted in their mouths. If a chimpanzee be wounded, it stops the bleeding by placing its hand on the wound, or dressing it with leaves and grass. When an animal has a wounded leg or arm hanging on, it completes the amputation by means of its teeth. A dog, on being stung in the muzzle by a viper, was observed to plunge its head repeatedly for several days into running water. This animal eventually recovered. A sporting dog was run over by a carriage. During three weeks in winter it remained lying in a brook, where its food was taken to it; the animal recovered. A terrier dog hurt its right eye; it remained lying under a counter, avoiding light and heat, although habitually he kept close to the fire. It adopted a general treatment, rest, and abstinence from food. The local treatment consisted in licking the upper surface of the paw, to which he applied the wounded eye, again licking the paw when it became dry. Cats, also, when hurt, treat themselves by this simple method of continuous irrigation. M. Delaunay cites the case of a cat which remained for some time lying on the bank of a river; also that of another cat which had the singular fortitude to remain for forty-eight hours under a jet of cold water. Animals suffering from fever treat themselves by the continued application of cold, which M. Delaunay considers to be more certain than any of the other methods.

From the foregoing examples it would seem that animals of very different ranks in the scale of being, practice the "healing art" with great success. Possibly the conditions adapted for restoration of health are more typically represented in lower than in higher life. Be this as it may, we must agree with M. Delaunay and with Mr. Lucas, in the opinion that there exist a good many points in animal medicine which are well worthy the study of the human philosopher.

THERE is no greater mistake than over clothing. It heats the child, who is then apt to take a chill in the slightest draught. Nurses are so fond of "well wrapping up" the young victims, and yet marvelling why they catch cold. Dismiss, too, the superstition that "wraps" are to be begun and cast off at stated seasons. The thermometer outside the nursery window must regulate the wraps.

## THE GERM THEORY OF DISEASE.

### VII.

WE have now arrived at that stage of our inquiries when it becomes necessary to review the position which the "Germ Theory" may be said to occupy in relation to modern thought. We have seen that, in so far as the evidence favouring that theory is concerned, no doubt seems to exist regarding the real and veritable nature of this explanation of the phenomena of fermentation and allied action, as well as of the production of disease. How and why is it, for example, that certain infectious diseases (e.g. yellow fever) are confined to regions of a certain temperature? Why is it that diseases of this type exhibit a growth, development, maturity, decline, and death—showing thus their striking analogy with, and affinity to, the production and life of animals and plants? Why is it that each disease, as a rule, produces its like—that, when we sow small-pox we beget small-pox, or when we sow measles that disease appears? How is it that these and other diseases vary within certain limits, conforming, as a rule, to their type, but now and then exhibiting modifications and departures from that type? The replies to these questions can be satisfactorily answered in one way, and by one consideration alone. These diseases are the products of life and of living matter. Their "symptoms" are but another name for the varied features which their growth exhibits and produces within the confines of the human frame, and within the bodies of animals at large. Their propagation from one being to another means simply the diffusion of their "germs;" and the destruction of these germs, given off from the diseased surfaces, in each case, is a process synonymous with the killing of the special disease itself. Lastly, the bare fact that each disease affects special surroundings of its own; that typhus fever breeds within the foul air of rooms and houses; that typhoid fever and diphtheria grow amongst decomposing sewage in drains, attest the strength of the idea that, like animals and plants at large, the fever-poisons flourish only when they meet with their appropriate and natural soils. "Disinfection," in this light, means the bringing in contact with the fever-germs an atmosphere or soil in which they cannot exist, and which kills them as surely as an atmosphere of carbonic acid gas is fatal to higher animal life.

Very important advances in our knowledge of the special living forms which thus breed diseases, have been made within recent times. It has already been shown that splenic fever in cattle, &c., is due to the propagation of a microscopic form of plant-life—the *Bacillus anthracis*—within the bodies of our flocks and herds. "Fowl cholera" is due, as has also been shown (see HEALTH, page 133), to the growth within the bodies of birds of another *bacillus*-particle. It, therefore, becomes necessary that we should acquaint ourselves with the history, so far as that history is known, of these microscopic beings, whose power to affect the tribes of animal life appears so marked and decisive.

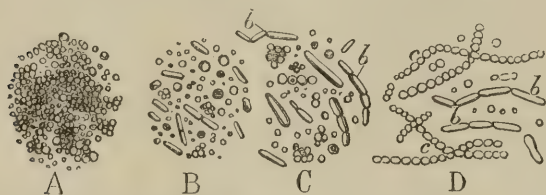
The name *Bacteria* has been very generally accepted as indicative of a primitive group of plants, belonging to the lowest class of plant-life, known botanically as that of the *Protophyta* ("first-plants"). Under this common name of "Bacteria" very different plants are included, but they all agree in wanting the well-known green colour (or chlorophyll) of higher plants, and in presenting us, each, with the appearance and characters of a single mass of living matter. This living matter is *protoplasm*. In one form or another we find this matter entering into the composition of animals and plants of every grade. It is the one substance—



whether or not different "protoplasms" exist has not been proved—which exhibits life; and, as such, it fairly enough merits the title, "physical basis of life," which has been bestowed upon it. In the lowest animals and plants, each of which thus appears as a mere speck of protoplasm, we see this "matter of life" in its simplest guise. In the bodies of man and higher animals, and in the higher plants, "protoplasm" also discharges all the functions of life.

The lowest plants, many of which thus present us with lives the outcome of which is the production of diseases in higher beings, are apparently simple specks of living matter, possessing all the features commonly spoken of as belonging to the "cells" or minute bodies of which the tissues of animals and plants at large are built up.

The "Bacteria" of disease, however, differ in form and size. For example, there is a curious little plant known as *Sarcina*, which grows in the stomach of man, and produces symptoms of serious nature. These plants consist each of small cells, which divide crosswise into four, and thus reproduce their like in simple fashion. Properly speaking, *Sarcina*



Development of life in an infusion.

is not included in the Bacteria family. Therein we find the *Bacillus*, and also a number of other beings, capable of producing, and associated with, infectious disease. Of Bacteria there are at least four kinds:—Firstly come the "round bacteria" (*Spherobacteria*), consisting of small round cells. These grow on the surface of moist and decaying animals and plants. They often form jelly-like growths, which may be coloured blue, violet, or yellowish-green. Included in this tribe are found the little *Micrococci* (literally "small berries"), which we find present in cases of erysipelas, fowl-cholera, in hospital fever (or *pyæmia*), and in the eruptive fevers, such as scarlet fever, measles, &c. It is a micrococcus, probably, which causes the *pêbrine* of the silk-moth, already described in HEALTH (page 84). The second family is that of the Bacteria themselves. Here we meet with little rod-like bodies, capable of swimming about in fluids. When organic fluids are exposed to the air, they putrefy by natural expectation. When we examine the progress of decay—which is thus really, however, a process of life-development—in any such fluid, as, for example, beef-tea or hay-infusion we see that there is firstly formed on the surface thereof a thin scum, or pellicle. Examined under the microscope (Fig. A), this scum is seen to consist of microscopic particles, resembling the "round bacteria" just described. Later on (B) the fluid shows a development of true rod-shaped bacteria, which move about through the fluid, and which, according to some observers, originate from the round bodies (Fig. A) themselves.

The third class of these lowest plants includes the thread-like bacteria, or *Filobacteria* of botanists. Here the cells unite to form threads, which when straight are named *Bacilli*, or, when curved or bent, *Vibrios*. The latter forms are shown in Fig. C at *b*. When, on the other hand, a long string of bacilli are united together in chain-like fashion, what is known as a *Leptothrix* (Fig. D) is formed. It has already been shown how these bacilli propagate their like by means of the production of "spores," or germs, in their interior, which are in due time set free.

Occasionally they may multiply by cross-division. These bacilli are the chief living elements we see associated with consumption, and allied forms of the disease known as *tuberculosis*. It is a bacillus which, as we have seen, causes splenic fever. Another bacillus has been found in typhoid fever, and these minute plants also figure prominently in malarious troubles, or those which (like ague) arise from contact with the exhalations of swamps and marshes.

A fourth family of these disease-germs includes those species which have been named *Spirobacteria*, from their spiral or twisted shape. These spiral forms are, as a rule, larger than the preceding species. In the mouth, teeth, and nose of healthy persons, these "spiral" plants are found. One species (*Spirochaeta denticola*) thus inhabits the mouth and nose. But that the members of this family are not always of harmless type is proved by the fact that one form, *Spirochaeta Obermayeri*, or "spirillum," as it is sometimes also named, is found in the blood of patients suffering from "relapsing fever."

Having noticed what may be named the botany of these plants and their germs, it remains for us to examine the circumstances which, in the light of proofs, serve to connect them with the various infectious diseases as the causes of these maladies.

**BATHS.**—Dr. Caulet describes minutely his experience of the action of bath of different degrees of temperature between the hot and cold, and considers the temperate as the only proper one for the reduction of animal heat. There is no certain degree of temperature that constitutes the temperate bath—it must be ascertained by the feelings of the patient himself—to him the bath should feel agreeable, and convey an amount of freshness to the body without producing chilliness or a sense of shivering—90 or 92 degrees frequently does this, but it varies with different people. He finds that hot baths raise the temperature, while cold ones do not affect it. With regard to the duration of a temperate bath, it depends upon the patient, as no rule can be laid down; it should not last longer than is pleasant—it may be five minutes in one case, and an hour in another—the patient should not be in longer than is comfortable to him—he should never be allowed to remain in long enough to produce shivering or even chilliness. The cold douche which has been of such reputed value in lowering the temperature, has been found signally to fail in surpassing the temperate, for although it succeeds occasionally, the same dependence cannot be placed upon it as upon the temperate. The temperate bath has, moreover, a sedative effect. It is destined to take a prominent place in the treatment of fevers. Dr. Caulet condemns severely Brand's cold-water treatment of typhoid, which has been productive of so many fatal accidents. In using the temperate bath the following rules must be followed:—  
(a) Never attempt to renew the heat of the bath by addition of hot water; this invariably produces a chill.  
(b) Leave the bath before shivering is felt.  
(c) Lower the temperature daily, having first found the proper heat of the bath by the patient's own feelings. And (d) lastly, should shivering occur, renounce the treatment for a time.  
—*Bulletin Général de Thérapeutique.*

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## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### XI.—THE HAIR AND ITS TROUBLES (*Continued*).

BY DR. ANDREW WILSON.

A VERY troublesome, and one may say, hydra-headed affection of the skin, is that known as *eczema*, popularly spoken of as "milk crust." This affection is marked by the development of small pustules on the skin, and constitutes, indeed, the most common of skin troubles. The interest which this disease creates, in relation to the hair, can be understood when we find that the hair is involved in the abnormal state of the skin, and that the matter discharged from the *eczema* pustules will cause the hair to become tangled, knotted, and weakened. In young children, especially, the scalp may become a mass of sores and matted hair, and, if neglected, the disease entails subsequent hair weakness, if not baldness itself.

Such cases are difficult of treatment. There is a liability to relapse, which often defies treatment; but much may be done to alleviate the disease, and to effect a cure. The "general health" aspects of the case come prominently to view under such circumstances. All weakness of the system at large, blood-disorders, digestive troubles should be attended to without delay. Correction of such constitutional errors forms half the battle in the treatment of *eczema*. For local applications to the scalp, the first process consists in the thorough cleansing of the head with warm water and Castile soap. For a few days thereafter, some simple oil-dressing should be used. Then the following ointment may be applied, morning and night, after the scalp is washed:—tar, 1 oz.; oil of white birch, 1 drachm; lard, 1 oz.; simple ointment, 1 oz. It should be added that as this application stains the clothing, a cap should be worn. The matted hair should, when much involved, be clipped short. A favourite powder, which may be dusted on the scalp, in such cases, is made of camphor, 1 drachm; oxide of zinc ointment, 1 drachm; starch, 1 oz.; and alcohol, a sufficient quantity. If the foregoing remedies fail, they may be used alternately with a lotion which has been found useful in cases of hair-troubles of the kind alluded to, and which consists of dilute prussic acid, 1 drachm; sub-nitrate of bismuth, 2 drachms; rosewater and glycerine, of each, 2 ozs.

A very troublesome affection, liable to be confused with certain parasitic diseases of the skin, is that known as *sycosis* of the chin, sometimes as "false barber's itch." On the skin, in this case, pustules form, a hair being involved in the centre of each. The affection may extend to the face generally, and to the eyebrows. This affection is confined to the hairy parts of the face, whilst the *eczema* already mentioned affects the skin at large. The treatment for these troubles of the beard and hair resembles that of *eczema*. The crusts and matter are to be removed by the free application of oil and soap-washing; then the hairs are to be pulled out of the affected parts, an operation which, owing to the loosened state of the follicles, will not be of a painful nature.

The ointment, consisting of flowers of sulphur, 1 scruple; iodine, 10 grains; and oxide of zinc ointment, 1½ ounces, should then be applied to the affected parts twice daily. Later on, the simple oxide of zinc ointment itself may be

used as a healing application. A common hair and skin trouble is that known as *Acne*. Here, the sebaceous follicles become filled with their secretion, and the tubes being blocked up, whilst the top of the plug becomes blackened, the face comes to appear spotted. The little white mass with the black head, which can be pressed from each follicle, is the impacted sebaceous matter. If allowed to remain, and if inflammation sets in, the simple blocked-up duct becomes a pustule. Many young persons suffer from *acne*. The causes of the affection are to be found in the activity of the skin-glands in early life, and in the probable arrest of their secretion by some condition, of which sudden changes of temperature, chills, and the use of cosmetics, face washes, &c., are the most common.

When the face-pimples of *acne* become very troublesome and prominent, the best form of treatment consists in opening them at the top by aid of a fine cambric needle. By this operation the imprisoned secretion is allowed to escape, and thereafter washing with hot water and soap, and friction to the skin with a towel, will favour both the cure and further the prevention of the disease. A lotion for the skin after this simple treatment may be used. The following is a favourable application:—Tannic acid, four drachms; glycerine, one ounce; rosewater, one ounce; bay rum, one ounce. To be used freely as a skin-application. Those who suffer from these *acne* pimples, in which, as often as not, the hairs of the scalp may be involved, should live temperately and avoid stimulating foods. In such cases, mild aperients, such as small doses of some mineral water (e.g., "Æsculap," or the "Victoria Ofner Bitter Water") will be found useful.

In our next papers we shall deal with excessive hair-growth, and with the topics of hair-dyes, &c., leaving the hair-affections caused by animal and plant-parasites for future notice.

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SANITARY INSPECTION OF SCHOOLS.—Ohio is to be congratulated on having been the first State to adopt a law requiring the sanitary inspection of schools. The Revised Statutes of the State have been recently amended by the addition of a clause which provides that: "And the said Board (of Health) is hereby required to inspect semi-annually, and oftener if in the judgment of the Board it shall be deemed necessary, the sanitary condition of all schools and school-buildings within the limits of the corporation."

PREVENTION OF SCARLET FEVER.—In view of the recent prevalence of scarlet fever in Hertford, New Britain, Meriden, Middletown, New Haven, and other towns in Connecticut, the State Board of Health has issued a circular (No. 8) on the prevention and restriction of this disease. Isolation until six or eight weeks after convalescence has been fairly established, disinfection during treatment, and fumigation by burning sulphur at the conclusion of the case, are the measures recommended. The disinfectants recommended are:—1. For cotton and linen goods, for washing the hands, and almost all uses, sulphate of zinc, four ounces; common salt, two ounces; water, a gallon. Double the strength should be used about the bodies of those dying from scarlet fever. 2. Copperas, a pound and a half to the gallon of water, for sewers, drains, and excreta. 3. Lerner's disinfectant possesses the advantage of giving off non-stifling odours, and can be used to fumigate halls, entries, and rooms while occupied. It is considered effectual, and has been largely used. It does not take the place of sulphur for complete fumigation.—*Philadelphia Medical News*.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### "WHAT TO DO IN EMERGENCIES."

(Short and Simple Directions for First Aid in Illness and Accident.)

By A HOSPITAL PHYSICIAN.

#### NO. XI.—DISINFECTION AND DISINFECTANTS. (concluded.)

For *Measles*, the oily applications to the skin, above recommended, are to be carried out. Chloralum or chloride of zinc solution has been recommended for the vessels into which the patient expectorates.

In *Whooping Cough* the infective power appears to be singularly strong. Air-disinfection should be practised strongly, as already described, in this disease.

With *Diphtheria*, and having regard to its contagious nature, special care requires to be taken. The breath of the patient is charged with the disease-poison, and cases are only too numerous in which this affection has been conveyed by injudiciously kissing a sufferer. All the rags used to wipe the mouth should at once be burned after use. The employment of air disinfectants is highly necessary here, as in the case of typhus fever; and the excretions, by way of precaution, should also be disinfected with Chloralum, Condy's Fluid, or other liquids.

In *Typhoid Fever* or *Gastric Fever* (or *Enteritis*, as it is also called), the great point to be borne in mind is that which regards the discharges from the bowels as containing the poison-matter. It is these matters which, carelessly treated, find their way into water and milk, and thus spread the disease abroad. The rule in typhoid fever, then, is *at once* to disinfect all such discharges. For this purpose, a solution (strength 1 to 20) of *muratic acid* or of *vitriol* may be used. The vessel should then have some chloride of lime added to it, and be left for some time, when the contents may be disposed of. On no account should excretions be put into closets or sewers without disinfection. In the country, where this fever is too often found, it is traceable to the want of disinfection and to the throwing of the discharges abroad, on the ground, or in fields near wells and rivers. Other disinfectants which may be used in typhoid fever are *sulphate of copper*, *chloralum*, *sulphate of iron* (1 ounce to a pint of water), and strong carbolic acid. The *bedding* of the typhoid fever patient should also be thoroughly disinfected.

Happily, *Cholera* is now comparatively rare amongst us. In this disease also, the discharges from the bowels bear the infective matter. *Sulphate of iron* has been recommended, but some good authorities deny its efficacy. There are great variations of opinion regarding the best disinfectants for cholera excretions. Probably those recommended for typhoid fever are as effective as any. Carbolic acid vapour, chlorine gas, nitrous acid fumes, &c., should also be used for the purification of the air. Dr. Budd's advice—"Be lavish in the use of chemicals, rather than run the terrible risk by failing by default"—applies with special force to cholera-disinfection.

*Dysentery* is a disease which seems liable to spread in the same fashion, as regards its origin, in which typhoid fever and cholera increase. Fumigation of the excretions with *chlorine gas* have had excellent effects in preventing the spread of this affection. Carbolic acid in *strong* solution may also be commended as a disinfectant for the discharges in dysentery.

The dreaded *yellow fever* is probably spread by the

vomit becoming diffused. *Nitrous acid fumes* are regarded as specially useful here. Carbolic acid or chloralum might also prove efficacious.

When death supervenes from any infectious disease, our duty to the living demands that special precautions be taken with the dead body. When danger is to be apprehended from this source, the body should be wrapped in sheets fully saturated with carbolic acid solution, of strength one to twenty, or with chloride of lime solution, one to forty. When confined, the body should be surrounded with sawdust, in which these solutions have been placed. *Carbolic powder*, or "Sanitas Powder," presents an effective means whereby disinfection of the dead body may also be performed when confined, and *nitrous acid fumes* form the best disinfectant for mortuaries or apartments in which the dead have lain for some time.

In concluding our papers on "Disinfection" and on the treatment of the household when fever invades it, we may add the following valuable suggestions, contributed by Dr. Green, of Gateshead, to the *Lancet*. The directions therein detailed, whilst intended primarily for the guidance of medical men in attendance on fever cases, are also worthy of being borne in mind by all attendants on patients suffering from infectious diseases:—

- "1. Always have the window open before entering the patient's room or ward. 2. Never stand between the patient and the fire, but always between him and the open window. 3. If possible, change your coat before entering the room. 4. Do not go in for any unnecessary auscultation or other physical examination. 5. Stay as short a time as possible in the room. 6. Never, while in the room, swallow any saliva. 7. After leaving the sick-room wash the hands with water containing an antiseptic. 8. Rinse out the mouth with diluted "Toilet Sanitas" or Condy's Fluid also gargle the throat with it, and bathe the eyes, mouth, and nostrils. 9. Expectorate and blow the nose immediately on leaving the sick-room. 10. Keep up the general health by good food, exercise, and temperance. 11. In addition to the above recommendations, which are all pretty generally known, I would suggest another, which is, in my opinion, the most important of all. This is, to filter all the air you breathe while in the sick-room or ward through an antiseptic medium. My method is to use a McKenzie's inhaler over the nose and mouth. I carefully soak the sponge in a strong solution of carbolic acid before entering the sick-room. It is so made that all the air breathed must necessarily come through this sponge, and the expired air is emitted, by a valve action, at another place. I have worn this not only in the fever hospital wards, but in many of the typhus dens in this borough. It is to this method that I attribute the fact that although I have attended between 200 and 300 cases of typhus during the last twelve months, and seen many more, I have hitherto escaped infection myself. The only objection (which is not of much importance in a hospital) is the unsightly appearance one has with the inhaler *in situ*. This objection is, however, a very slight one when weighed against the greatly increased safety one not only feels, but I believe actually possesses."

A SIMPLE REMEDY FOR CHAFING.—Bathe parts well in tepid water, dry well with soft cloth, and apply, by means of a soft sponge or cloth, the following:—

Rx.—Zinci acetatis..... gr. xv.  
Morphiæ acetatis ..... gr. ii.  
Glycerin .....  
Aq. rosæ ..... aa ʒ ii.

Apply to chafed parts twice or thrice a day.



## NOURISHING FOODS AND DRINKS FOR THE SICK.

In cases of severe or prolonged sickness, when the disease taxes the system to such an extent that frequent and abundant nourishment is required to repair its ravages, the class of foods treated of in this article will be found useful. Although the diet should be nutritious, it must not be substantial; it must be easy of digestion and capable of quickly imparting its nutriment to the system. These requirements seem to be met by the semi-liquid foods, and since they can be used either hot or cold, and can be made stimulating as well as nourishing by the addition of a little wine, they can be so chosen as to meet the various conditions of debility, exhaustion, or fever. In administering these foods, the fact should be remembered that, unless there is some reason applying to the patient's welfare for using them cold, they will best serve the general purposes of nutrition when warm.

The basis of all caudles is flour gruel, made either with water or milk, that made with milk being the most nutritious, while both are equally digestible. In cool weather a quantity of gruel may be made and kept in a cool place, and portions of it heated and used as required. When gruel enters largely into the diet, its acceptability to the patient will be augmented by varying the flavouring or spice used in its preparation. If, therefore, a quantity is made plain, it can be sweetened and variously flavoured as it is heated for immediate use.

*Cold Wine Caudle* (a nutritious, digestible, and slightly stimulating food, useful in all sickness where starch and wine are not objectionable). Make a good gruel by mixing smoothly a tablespoonful of flour with half-a-pint of cold milk or water, and stirring it into a pint and a half of boiling milk or water; add a level teaspoonful of salt, and let the gruel boil for five minutes, stirring it to prevent burning.

To half-a-pint of cold gruel add one egg beaten to a froth, one glass of good wine, and sugar and nutmeg to suit the palate of the patient.

*Hot Wine Caudle* (preferable to cold caudle generally, and useful in the same physical condition indicated in the preceding recipe). Heat half-a-pint of gruel; beat the yolk of a raw egg to a cream with two tablespoonfuls of pulverised sugar; beat the white of the egg to a stiff froth; when the gruel is boiling hot, quickly beat a glass of good sherry or Madeira wine into the egg yolk and sugar, stir the hot gruel into it, and then add the beaten white of the egg. Work very quickly, and serve the caudle hot.

*Cream Caudle* (an equally valuable food with the two preceding caudles, useful under similar physical conditions). To one pint of gruel add one glass of good wine, one gill of sweet cream, one tablespoonful of noyeau or any good cordial, and sugar to suit the patient's taste. Use hot or cold, but preferably hot.

In conditions of illness where an absolutely liquid food is better suited to the patient than that of semi-liquid character, milk, Irish or Iceland moss, and chocolate are valuable aliments; especially is this the case with any preparation of chocolate, which abounds in nutriment. In using these beverages, the facts should be borne in mind that excessively hot drinks lower the temperature of the body by inducing perspiration, while very cold ones are apt to check it so suddenly as to cause more or less congestion, sometimes of vital parts; moderately warm drinks are therefore to be preferred to either very hot or very cold ones. In feverish conditions, when there is a natural craving for cold drinks, the intense thirst can be safely assuaged by the frequent use of small bits of ice, which

afford a sense of refreshment not to be obtained from large draughts of iced water, the immoderate use of which is never advisable, even in healthy conditions.

*Almond Milk* (an exceedingly nutritious beverage, useful in most conditions of illness).—Pour a quart of boiling water upon a quarter of a pound of shelled almonds, and when the skins soften rub them off the kernels with a clean towel; pound the almonds thus blanched in a mortar, putting in three or four at a time, and adding four or five drops of milk, as the almonds are being pounded, to prevent oiling—about a tablespoonful of milk will be required for the quarter of a pound of almonds; when the almonds are finely pounded, mix them with a pint of milk, two tablespoonfuls of sugar, a level teaspoonful of salt, and the yellow rind of a lemon, and place the milk over the fire to boil; meantime beat three eggs smoothly, and strain the almond milk into them, stirring the mixture as the milk is strained in; return it to the saucepan, and place it in another pan of hot water, over the fire, stirring it constantly until it begins to thicken; then remove it at once from the fire, strain it, and use it.

*Barley Milk* (a demulcent, refreshing, and nutritious beverage, useful in fevers and gastric inflammation).—Wash four ounces of pearl barley in cold water until the water is clear; put it over the fire in a double kettle with a quart of milk and a level teaspoonful of salt, and boil it until the milk is reduced one half; then strain off the milk and sweeten to suit the taste of the patient. The barley may be used as food by adding to it a glass of wine and a little sugar.

*Irish Moss Water* (a bland, nutritious drink, excellent in feverish conditions and in colds). Wash half-an-ounce of moss in plenty of cold water; then soak it for ten minutes in a pint of cold water; then add two pints of cold water, a tablespoonful of sugar, and an inch of stick of cinnamon to it, and boil it until it is about as thick as cream; strain it, add more sugar if it is desired, and use while warm. The yellow rind of a lemon may replace the cinnamon as flavouring.

*Icelandic Moss Chocolate* (a very nutritious drink, suitable for use when abundant nourishment is required).—Wash 1 oz. of moss thoroughly in cold water; then put it over the fire to boil in one pint of water. Grate one oz. of chocolate fine, mix it with half a cupful of cold milk, stir it into a pint of boiling milk, and boil it for five minutes; then add it to the boiling moss, strain them together, sweeten them to suit the taste of the patient, and use the beverage warm.—*Harper's Bazaar.*

**TASTELESS MEDICINES.**—An old coloured man saw a sign in a drug store which read "Tasteless medicines." Looking in at the "pizen-mixer," as he called him, he said: "Dat am de bes' advice I eber got—taste less medicines," and then hurried away, just in time to dodge a package which was thrown after him.

**INDIVIDUAL WORK AND HEALTH.**—But let me add, that the duty of knowing and doing health-work is, above all, an *individual* duty. It is the part of the individual which gives to the work of health-reform its character and its strength.

**HOW TO PREPARE FOMENTATIONS.**—Take your flannel folded to a required thickness and size, dampened quite perceptibly with water, but not enough to drip, and place it between the folds of a large newspaper, having the edges of the paper lap well over the cloth, so as to give no vent to the steam. Thus prepared, lay it on the stove or register, and in a moment steam is generated from the under surface, and has permeated the whole cloth to heat it to the required temperature.—*Mich. Med. News.*



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

#### NO. IV.—HEALTH RESORTS DESCRIBED (*Continued*).

**BALLATER**, a village in Aberdeenshire, seated at the foot of Craigendanoeh mountain (800 ft.), on the left bank of the river Dee. The distance from London is 585 miles. Ballater is reached from the south *viâ* Aberdeen. Trains reach Ballater in two hours after leaving Aberdeen; Ballater station being situated on the Great Northern of Scotland Railway. From Ballater a pleasant coach drive of nearly three hours, takes the traveller to Braemar. The air of Ballater is, typically, the mountain air which is found so bracing and effective in scrofulous troubles, in kidney affections, and in diseases or conditions in which a tonic atmosphere is likely to be beneficial. The air here is well adapted for those to whom the sea is over-stimulating. Hotel: The Monaltrie Arms. Pananich, two miles distant, has a mineral well. Balmoral is nine miles from Ballater.

**BALLYCOTTON**, in Cork, is five miles from Clogne. It has a good beach. Sea air bracing. Accommodation limited.

**BANGOR**, situated at the mouth of the Menai Straits, is a Carnarvonshire town, reached from London (whence it is 240 miles distant) by the London and North-Western Railway and by the Great Western Railway. From Llandudno, Bangor is distant eighteen miles, and from Holyhead twenty-four miles. Around Bangor the beach is rocky and shingly. Bathing is, however, easy of practice. The air is pure and not over bracing. Invalids who are apt to disagree with the sea may find Bangor agreeable from this latter quality. Hotels: Penrhyn Arms, Castle, British, Bellevue, George. Return fares from London: 71s., 53s., and 34s.

**BANTRY**, in Cork, 218 miles from Dublin, near the head of the famous bay. Most readily reached from Dublin. Population about 3,000. There is a good beach, bathing convenient. The climate is mild, and the air is bracing and stimulating, but warm. Hotel: Vickery's. Lodgings are plentiful and moderate in price.

**BARMOUTH**, in Merionethshire, is situated beautifully on Cardigan Bay. From London distant 230 miles. Population about 2,000. The air here tends towards moistness, hence Barmouth is to be recommended for those who suffer from any affection of the breathing organs. Persons suffering from bronchitis, pleurisy, and similar affections benefit from a stay here. There is a long stretch of sandy beach. The chief hotels are the Corsygedol Arms and the Barmouth Hotel. Barmouth is readily reached *viâ* Great Western Railway from London, Liverpool, &c. Return fares from London: 67s. 6d., 49s. 3d., 32s. 6d.

**BATH** (Somerset), distant from London, 107 miles; from Liverpool, 200; from Oxford, 67; and Birmingham, 98. The town, as Macaulay remarks, "charms every eye," lying, as it does, embosomed in hills. The medical characteristics of Bath resolve themselves into the twofold head of its climate and its waters. As regards its climate, Bath may be described as warm and moist, although liable to change. In the lower parts of the town the tendency to moistness is very marked, in summer and autumn espe-

cially. The rainfall averages 30 inches; 7 inches being the average summer fall. June and July are wet, as a rule, the spring months being dry. In Bath, about 160 days in the year are wet. The mean annual temperature is 50·5°. In winter the climate is mild, varying from November to February, at three p.m., from 44° to 49°. So far as mildness of climate is concerned, Bath is all that can be desired. From the Roman days, Bath waters have been celebrated. It was then named "the city of the sick"—a term which may still be applied to it. The springs are warm, and are found in the southern part of Bath. They number four, the temperature varying from 104° to 120° Fahr., and in addition there are the hot bath and the Hetling Pump-room. About 180,000 gals. per day are discharged from the springs. About 10 grs. of minerals are contained per gallon. These include sulphate of lime and soda, chlorides of sodium (common salt) and magnesium, carbonate of lime (chalk), silicic acid, and a little iron. The sparkling appearance of the water is due to carbonic acid (seen familiarly in aerated waters). The waters are used both internally and for baths. From a quarter to a pint may be drank before breakfast, and in the afternoon. The favourable effects are seen in an increased temperature; a quickened circulation; an increase of appetite, and of the kidney secretions. In large doses an aperient action is produced. The baths are taken from 96° to 98° Fahr., and the patient remains therein from ten to thirty minutes. Both waters and bath are recommended in cases of chronic rheumatism, sciatica, and lumbago. In gout, they have been long esteemed, but especially in the chronic form of the disease. Affections of the joints often improve here, and neuralgia is also benefited by a course of bathing. Indigestion of the chronic kind is benefited by residence at Bath, and bloodlessness in anæmia is found to disappear under the treatment practised in this famous resort. In liver-affections, habitual constipation, certain skin-diseases (lepra, eczema, &c.), and recovery from metallic-poisoning (*e.g.*, lead or mercurial poisoning) Bath waters are useful. The season extends from the end of March to November, but many persons reside throughout the year here. Hotels numerous—Grand Pump Room, York House, Christopher, Castle, Royal, Stead's, &c. The Midland Railway presents facilities in pleasant travelling to Bath, as also does the Great Western, as a direct line. Return fares from London: 32s. 6d., 24s. 6d., 16s. From Carlisle *viâ* Midland, Tourist Returns, 1st, 79s. 4d.; 3rd, 41s.

**BEAUMARIS**, in Anglesea, at the entrance of the Menai Straits, is 250 miles from London. Population about 3,000. Beach sandy. Health characteristics, those of Bangor. Hotels: Bulkeley Arms, Liverpool, Williams', Commercial. Route, *viâ* London and North-Western Railway to Bangor, thence coach or ferry, or from Liverpool *viâ* steamer.

**BERWICK-ON-TWEED**, in Berwickshire, population about 14,000, is situated on the main line from London to the North, *viâ* King's-cross and Newcastle. Here the North British Railway system begins. The railway viaduct is 104 ft. above high-water mark, and is 2,160 ft. long, numbering twenty-eight arches in all. Berwick is fifty-eight miles from Edinburgh. The climate is highly bracing, with all the characteristics of a typical sea-coast. Affections such as scrofula, joint-troubles, &c., benefit from a stay here. Hotels: King's Arms, Red Lion. Fares: Tourist return from London, 94s., 75s. 4d., 49s. 6d.

**BERWICK, NORTH**.—A famous seaside resort in Haddingtonshire, distant twenty-three miles from Edinburgh, whence it is reached on the North British Railway, in one hour's journey, *viâ* Drem Junction. North Berwick is celebrated



for its golfing links, probably surpassed by none in the kingdom. Hence golf, "the king of games for the middle-aged," and the "Royal Game" of its votaries, is the chief amusement here. The sands are long and extensive. There is no pier, and amusements are limited. Bathing is conveniently carried out at nearly all states of the tide. The air is bracing, and the climate by no means cold for the east coast. The proportion of wet days is not large in the season, which extends from May till October. Nearly all affections, at all benefited by the sea air, do well at North Berwick, which is to the north, what Margate (in respect of its bracing air) is to the south. Apartments are somewhat scarce, and houses are somewhat high-priced. Hotels: The Marine (with well-arranged baths, &c.); and the Royal. Private hotels have also been established.

**BEXHILL-ON-SEA**, in Sussex, sixty-four miles from London, lying between Hastings and Eastbourne. The station is half-a-mile from the town. The population is about 3,000. Beach, sandy; bathing, good; air, bracing and mild. Hotels: Bell, Queen's. Bexhill is reached from London by London and South-Eastern Railway in about three hours. Return fares: 21s., 15s. 6d., 10s. Saturday to Monday tickets: 16s., 11s. 6d., 8s.

**BIRCHINGTON-ON-SEA**, in Kent, is seventy miles from London, by London, Chatham, and Dover Railway. Bathing, good. Population, about 2,000. Hotels: Sea View House, and West Cliff. The "Cliff Estate" and "Hotel" deserve special notice for the completeness of their sanitary arrangements; and the "Bungalows," or detached residences, are unique in character. Privacy, with every comfort, is secured by the "bungalow" system, which, in the words of Sir Erasmus Wilson, is the best sanitary system for family residence. Tropical invalids benefit from a stay at Birchington, where the bracing qualities of the sea may be experienced, with freedom from chill and cold. Climate, resembles that of Dover or Folkestone—bracing and dry. Return fares: 22s. 6d., 16s., 10s.

**BLACKPOOL**, 227 miles from London, is situated in Lancashire, on the coast, and bordering on the Irish Sea. This town has become a favourite resort for the dwellers in northern English towns. It is reached from the North or South, most conveniently from Preston, whence it is distant about 20 miles. There are extensive sands. The climate is mild, and as the season extends well into the autumn, invalids find Blackpool, like Southport, to be a convenient place for late residence. The dyspeptic benefits from a stay at Blackpool, where the sea air is not too stimulating. Light lung and throat affections are also benefited here, and cases of nervous ailments, as a rule, agree with Blackpool surroundings. An extensive pier has been built. Hotels:—Lane End, Imperial, Rossal's, Brewer's, Claremont, Clifton Arms, Bailey's, Royal, Wellington, Palatine, &c. There is also a hydropathic establishment. Trains from Euston depart as for Fleetwood. Return fares: 50s., 48s. 6d.

**USEFUL HINTS IN CONSUMPTION.**—"1. No person, particularly if young, should be allowed to sleep in the same bed, or even in the same room, with a consumptive. 2. No person should be allowed to remain for too long a time in too close or too constant attendance on a consumptive. 3. Ventilation as perfect as possible should be secured." We would add to these two others. 1. The expectoration of phthisical patients should be carefully disinfected. 2. Those phthisical patients who are in the habit of mixing freely with other persons should wear one of those anti-septic respirators which are now to be obtained for a few pence.

## Scotings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**BREAKFAST BEVERAGES.**—Each of our commoner breakfast beverages—namely, tea, coffee, and cocoa, presents sundry relative advantages and disadvantages, which have been well established by scientific experiments and general experience, and which are qualities that sometimes assume a special importance in certain conditions of health, habit, occupation, climate, and disease. Warm infusion of tea has been proved to have a marked stimulant and restorative action upon the brain and nervous system, and this effect is not followed by any secondary depression. It further increases the action of the skin, and raises the number of the pulse, while it has but little effect upon urination, excepting simply as a watery diuretic. It tends to lessen the action of the bowels. Dr. Parkes found that tea is most useful as an article of diet for soldiers. The hot infusion is a patent protective against extremes both of heat and of cold; and Sir Ranald Martin proved it to be particularly valuable in great fatigue, especially in hot climates. Coffee, like tea, when used as an article of diet, especially affects the nervous system. It is a brain and nerve stimulant; in very large doses, it produces tremors. It increases the action of the skin, and it appears to have a special power in augmenting the urinary water. It increases both the force and frequency of the pulse. Unlike tea, it tends to increase the action of the bowels. Coffee has been proved to be an important article in a soldier's dietary, as a stimulant and restorative. Like tea, it acts as a nerve-excitant, without producing subsequent depression. It is serviceable against excessive variations of cold and heat, and its efficacy in these respects has been established in antarctic expeditions, as well as in India and other hot climates. Dr. Parkes pointed out that coffee has a special recommendation in its protective influence against malaria. While admitting that the evidence on this point was not strong, he held it to be sufficient to authorise the large use of coffee in malarious districts. Coffee should be used as an infusion. If coffee be boiled, its delicate aroma is dissipated. The theobromin of cocoa is, chemically, identical with the thein of tea, and the caffeine of coffee. While tea and coffee are comparatively valueless as true foods, cocoa, by reason of the large quantity of fatty and albuminoid substances it contains, is very nourishing, and is of high dietetic value as a tissue-forming food. Compared with tea and coffee, it is a food rather than a stimulant, being akin to milk in its composition and place in the diet-scale. It is useful to sustain the weakly, and to support the strong in great exertion, as a readily assimilable and general form of nourishment.—*British Medical Journal.*

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**FRENCH CRITICISM ON LONDON SANITATION.**—The first result of the visit to London of the Technical Commission appointed by the Paris Municipal Council is an able report by Dr. E. Vallin, Professor of Hygiene at the Val de Grâce, on sanitary matters in the metropolis. On the whole the learned professor finds more to praise than to criticise, but he is severe on the London water-supply. The great conception realised by Belgrand, who went to their sources in Champagne, and there captured the waters of the Vanne and the Dhuy, to bring them, and this under cover, all the way to Paris, is far more worthy of a great modern city than our expensive and futile efforts to



filter the contaminated waters of the Thames. At the filtering beds of the Southwark Waterworks Dr. Vallin was very unfavourably impressed by the presence of their immediate neighbourhood of large dust-sorting yards, of crowded thoroughfares, and of railway lines. Gas-meters were also close at hand, and it is pretty evident that the dust blowing from all these sources must be heavily charged with microbes that would inevitably fall on the filtering-beds. On the other hand, Dr. Vallin prefers the English system of distributing the water to that in vogue in Paris. We have an abundant supply for all domestic purposes, and are able to effectively flush house-drains and public sewers, while in Paris, in 1879, there were no less than 30,000 houses that had no water-supply whatsoever. The water-supply of Paris is, nevertheless, greater than that of London. Dr. Vallin, basing his calculations on the figures given by Colonel Bolton, concludes that the average water-supply of London amounts to only 150 litres per head per day, while that of Paris is at the present 164 litres, and this will be augmented to 180 litres in the course of a few weeks by means of the new waterworks now nearly completed. Yet all who know Paris are aware that in the majority of closets there is no water, and this even in high-class houses, where there is a constant water-supply in the kitchen. The difference is due simply to the fact that from 78 to 81 per cent. of the London water is supplied and consumed within doors, whereas in Paris only 18 to 22 per cent. of the water goes inside the houses. Three-quarters of the Paris water is squandered in watering the streets, in supplying magnificent public fountains, and in maintaining the external cleanliness and splendour of the town at the sacrifice of domestic comfort. Dr. Vallin dwells at length on the house drainage of London, principally for the purpose of showing its superiority, and recommending his French readers to imitate English methods; but when speaking of the London sewers, he denounces them as filthy, as giving rise to the foulest odours, and as not always of the most recent and best construction. Nor are the London streets as clean or well kept and brushed as the streets of Paris. Dr. Vallin's compliments and criticisms can hardly fail to exert a favourable influence on both French and English sanitation, and we congratulate the able editor of the *Revue d'Hygiène* on the good use he made of his time while in London.—*Lancet*.

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**POISONOUS EFFECTS OF PETROLEUM SMOKE.**—A curious instance of poisoning from the smoke of petroleum is reported in the *Neue Freie Presse* of Vienna. A working-man's wife brought to a local hospital a child eighteen months old, who had been seized early in the morning with violent convulsions, and had subsequently become unconscious. She also stated that her husband, on awaking, had been taken with cramps, and had an uneasy sensation in his upper and lower extremities, accompanied by headache, from which she was also suffering. The singular colour of the child and the results of careful examination led to the conclusion that there had been acute poisoning from smoke-gases. It was then discovered that in the small and ill-ventilated bedroom occupied by the parties in question a petroleum lamp was used as a night-light, the flame being reduced as much as possible. The wick had, however, been left projecting without the protection of a glass cylinder. In this way the flame of course emitted smoke. The father (himself a delicate man) was also found to exhibit symptoms of poisoning. By the exertions of the medical men in charge of the cases, both the father and the child have progressed so far towards recovery that their restoration to health is confidently expected.

## Our Bookshelf

"Reading maketh a full man."—*Bacon*.

### VARIOUS HEALTH PAMPHLETS.

*Temperance and Total Abstinence; or the Use and Abuse of Alcohol in Health and Disease.* By SPENCER THOMSON, M.D., L.R.C.S. (London: C. Griffin & Co.)

AN able exposition of the scientific side of the relationship between temperance and total abstinence. Dr. Thomson writes concisely and clearly. His views will not find acceptance with extremists, but they are a powerful advocacy of true temperance and of wise and rational living.

*The Small-pox Epidemic of 1870-73 in relation to Vaccination.* By D. MANSON FRASER, M.D., M.R.C.P., F.S.S. (Reprinted from the *Sanitary Record*, April 15, 1883.)

A WELL-REASONED paper on the protective influence of vaccination. Dr. Fraser proves that in the epidemic of 1870-73 the number of deaths from small-pox of children under five, as compared with the total number of all ages, was very much less than it was in the eighteenth century. He shows that in vaccination, "efficiently performed," we have apparently the means of ultimately checking small-pox in the very young, and that through them, in time, we may be able to stamp it out altogether.

*On the Unity of Poison in Scarlet, Typhoid, Puerperal Fevers, &c.* By Dr. G. DE GORREQUER GRIFFITH. (Reprinted from the *Glasgow Medical Journal*).

THE doctrine of evolution, as applied to the investigation of disease, is beginning to receive special attention from physicians. Dr. Griffith's paper is an exposition of his ideas that the "poisons" which, sown in the human body, produce the varied infectious diseases are so many variations of a common type. This much, at least, appears to be proved—that all the fevers exhibit modifications and variations in symptoms and type, and that, moreover, one fever may occasionally exhibit certain characters of another and apparently different disease. We do not know sufficient of the changes or of the influences to which diseases are subjected in different individuals and constitutions; and the entire subject is highly complex in its nature. From all that we do know, however, it would seem that the great and guiding principle of evolution which animates modern life science may be found to possess nearer applications to medicine than are at present thought of by the profession.

*The Rudiments of Cookery, with Some Account of Food and its Uses.* By A. C. M. (4th thousand.) (London: Simpkin, Marshall, & Co. 1883.)

THIS little pamphlet presents its subject-matter in the form of questions and answers. It is, in fact, a catechism of cookery. The classification of foods given at the outset is hardly a scientific one, inasmuch as *water*, the most important food of all, is ignored in dividing foods into heat-givers, flesh-formers, and bone-makers. This is entirely an artificial classification, which should be replaced by the division into nitrogenous and non-nitrogenous aliments. Again, it is a wholesale error to say that food is churned about in the stomach "until it is broken up." The human stomach has no such function of "breaking up" food. Children should be taught that this process is the work of the teeth, and that when not duly performed in the mouth,



indigestion follows. The *villi* of the intestine are not "vessels" as described at page 12. They are minute projections of the wall of the intestine. The physiological part of this little book should be thoroughly revised. For the rest of the contents, dealing with cookery and domestic economy, we have nothing but warm praise.

*Disease and Putrescent Air.* By THOMAS ROWAN, C.E. (London: E. & F. N. Spon. 1883.)

MR. ROWAN'S remarks will be read with profit by all who have to do with the ventilation of drains and sewers. He condemns, apparently on rational grounds, the common methods of sewer ventilation. He has devised an intermittent system whereby sewers may be ventilated, and wherein ventilators, provided with cowls, and "gas abstractors" are employed. Mr. Rowan's concluding remarks on "House Drainage" will be read with interest by all sanitarians.

*Infantile Diarrhoea.* By ALEXANDER HARKIN, M.D., &c. (Reprinted from the "Dublin Journal of Medical Science." 1883.)

EVERY physician and every mother knows well the enormous mortality to which infant life of the first year is subject from the disease of which Dr. Harkin treats. He advocates for its cure total abstinence from milk, and orders a substitute of "arrowroot, prepared with water, some sugar and port wine being added." "It is wonderful," says the author, "how much wine, given in this way, an infant of a few months will consume and require." Beef-tea is also to be given, freed from fat. Rest in the recumbent posture is a necessity; whilst as regards medicine, Dr. Harkin depends on dilute sulphuric acid, with or without laudanum. As a contribution to the understanding of a disease that depopulates the early years of human life, Dr. Harkin's paper should be read and studied carefully.

*Sanitary Inspection of Houses.* By W. K. BURTON. (Reprinted from the *Sanitary Record*, Feb. 15, 1883.)

MR. BURTON read this paper before the Society of Arts. We have perused his remarks with great interest. Such information as he dispenses should be known to every intelligent householder. The discussion which followed the reading of Mr. Burton's paper is also extremely instructive.

*Temperance and Wheat Meal Bread.* By RATHMELL G. WILSON. (Salisbury: Messrs. Brown & Co.)

MR. WILSON believes that the use of a proper bread—which, in his opinion, is a "wheat meal" bread—would diminish intemperance and promote health. We are unable to go so far as the author, believing that intemperance is a complex condition, to the growth of which many factors, and not a single cause alone, contribute. Wheat meal bread is undoubtedly wholesome; but on certain persons it produces irritation of the lining membrane of the digestive canal. The opinion (quoted by Mr. Wilson) of the *Lancet*, seems to furnish the true grounds on which whole meal bread may be used or rejected.

*Rational Dress, or the Dress of Women and Savages.* By MRS. E. M. KING. (London: Messrs. Kegan, Paul, Trench, & Co.)

MRS. KING, whose efforts to "rationalise" dress are so well known in connection with the "Rational Dress Association," presents in this pamphlet a concise view of the

faults of women's dress as at present worn. The remarks on the general unsuitability of modern dress, and the glaring errors in personal health to which its wear may give rise are set forth with much force and power by the authoress.

#### *Reports of Medical Officers of Health.*

1. BOROUGH of Walsall, year ending Dec. 31, 1882. Dr. MacLachlan's report details cases of diarrhoea due to bad milk, and his demand for dairy-inspection is logical and well-timed. Six fatal cases of small-pox occurred in 1882. A violent outbreak in December was traceable—twenty cases being *distinctly* traceable—to one focus of the disease in Long-street. This alarming increase was checked by the prompt removal to hospital of the sufferers. A zealous staff of inspectors visited 5,105 houses in a house-to-house visitation, and 3,084 notices, requiring sanitary improvements to be carried out, were issued in 1882 in Walsall.

2. Whitby Urban Sanitary Authority. Report of Medical Officer of Health for quarter ending March 31st, 1883. No case of infectious disease is reported by Dr. Taylerson during this quarter, and the death-rate was exceptionally low.

3. Sanitary Report for the year 1882 of the Willesden Local Board. Dr. Branthwaite's report is a highly interesting one, and deals very fully with the health-statistics of this growing London suburb. In one case a child (unvaccinated), aged five years, took small-pox, and died. The body was removed to the mortuary, and the house and bedding were disinfected. Subsequently, in the same house, *eight fresh cases occurred*, the bedding being wisely destroyed after this second attack. Such a case teaches us anew the virulence of small-pox poison, and the necessity for the destruction of all bedding and clothes which have been in contact with this disease. Typhoid fever, caused by defective drains, caused five deaths. They are extremely valuable and suggestive. In Willesden, as elsewhere, drains and closets are by no means sanitariously constructed. Some 543 houses were inspected in 1882, and 757 notices served. Such inspections must undoubtedly save an immense amount of illness and expense, and must frequently save life itself.

4. The Reports of Dr. Wallace, of Greenock, and of Mr. Mackay, the Sanitary Inspector, for the month of April, 1883, show 109 cases of infectious disease. We are glad to see that a raid is made on piggeries kept near dwelling-houses. A tenement, the water whereof was impregnated with town-manure, gave rise, as was to be expected, to three cases of typhoid fever.

*How to Obtain Light from Coal Gas.* By ARTHUR CLARKE. (London: Waterlow, Sons, & Layton, 1883.)

THIS is an interesting pamphlet, dealing with a topic which certainly affects the comfort of every householder. Mr. Clarke is frank in the extreme in saying that as yet we have no reliable gas-burner with a steatite tip, which gives a light equal to sixteen candles, and consumes  $5\frac{1}{2}$  cubic feet of gas per hour, at pressures from five to twelve-tenths inclusive. Until this can be obtained, our author recommends the "A. C. Illuminator," sold at a shilling, which at six-tenths pressure gives a 16-candle light. Mr. Clarke has some useful remarks on gas-globes. He says, well-constructed burners should have globes at least four inches in diameter below. For those who require a good, steady, and brilliant light, we can recommend from personal experience Mr. Clarke's "A. C. Illuminator" burner. With the same amount of gas which before gave a flickering light, the "Illuminator" really justifies its name.



## Our Exhibition Reports.

"There is an education for us all in the sight of the ways and works of others."—*Anon.*

### THE NATIONAL HEALTH SOCIETY'S EXHIBITION.

#### II.

**CLASS I. CLOTHING.**—The stand occupied by Hamilton & Co. was, it should be noted, decorated by Messrs. Liberty & Co., Regent-street, who also supplied most of the fabrics of which the dresses were made. In an adjoining stand Messrs. T. and H. Steele, High-street, Tunbridge Wells, exhibited a collection of porous elastic corsets, designed, modelled, and manufactured by them. It is claimed for these corsets that they combine lightness, porosity, and flexibility, thus remedying nearly all the evils attendant upon the constant use of these garments as ordinarily made, and that without the use of bone they give that support to the body which stays are supposed to impart. A new mode of fastening them in front, does away with the steel busk, with which stays of the usual pattern are fitted. These corsets are, we believe, recommended by the National Health Society, and have received the approval of many well known members of the medical profession. Mrs. Ann Wise, 15, High-street, Manchester-square (Stand, No. 26), also exhibited stays for ladies and young girls, designed upon what is known as Dr. Roth's principle, for which it is claimed, that whilst they allow of the proper respiratory movements of the lower parts of the chest, they do not produce deformity, although fitting the waist sufficiently well to please the dressmakers. Mrs. Wise also showed some stays and bands made especially for children and young ladies, to support the body and to prevent deformity during the years of growth. Mrs. Beck, 24, Connaught-street, Hyde Park-square, W., had (Stand No. 35) one or two samples of the hygienic dress, as approved both by the Rational Dress and National Health Societies, made upon the rounded skirt principle. The dresses appeared to give all that elegance required, whilst it is asserted that the weight of the clothing is reduced one-half as the divided skirt covers the body fully and evenly. Fewer layers of clothing are required; and pressure of any sort round the waist is absolutely avoided, so that no internal organ can be cramped, and no movement of the body impeded. The catalogue contained an announcement that Mdme. Worth et Cie, 4, Hanover-street, would exhibit a "Rational evening dress made of blue surat, trimmed with lace and pearls, a hygienic garment fitting to the figure without pressure on any part of the body;" and also a child's hygienic dress. A notice on their stand, however, announced that pressure of business had prevented the firm from carrying out their intention. They sent, however, some antique stomachers and corsets of the seventeenth century, which seemed to show that in stays—bad as the present fashion is—we have improved somewhat on the ways of our ancestors. In the gallery sacred to the lady visitors to the exhibition the Rational Dress Society showed a model dressed in the new underclothing, which the society is seeking to popularise. The outer dress recommended by them being made on a different principle from the old form of dress, and divided skirts being in themselves warmer, though not so heavy as the old petticoats, the system of under-clothing adopted by the Society includes only three garments, viz, a vest and drawers made of some woollen or silk material, and the Society's "chemise," the

latter consisting of a high bodice without sleeves (which takes the place of the old stays and bodice) and a short skirt. These and the outer garment are held by buttons, so that there is no pressure of any sort upon the waist. This exhibit attracted a good deal of notice on the part of the visitors to the gallery, the arrangement having—to those ladies who have not taken an active interest in the dress reform movement—all the charms of novelty. Mr. John T. W. Goodman, 47, Albemarle-street, Piccadilly, brought under notice his registered tricycling dress for ladies, a series of garments which seems admirably suited for the special use for which it is designed, giving, as it does, perfect freedom to the limbs, without raising the skirt in front. It has another advantage in that it can be easily transformed into a walking-dress, by a very simple adjustment of the folds of the material. Mr. Goodman also shows a couple of Highland costumes, the one for evening wear, and the other for out-of-door exercise—which drew a good deal of attention. The distinctive feature of these dresses is that the scarf, instead of being worn over the shoulder, is draped round the hips, and fastened by a brooch, which, on being loosened, allows the scarf to be brought round the shoulders, entirely enveloping the upper part of the body, both back and front. Mrs. A. Bauer, 134, Oxford-street, had no less than fifteen exhibits of hygienic underclothing, consisting for the most part of "combined" chemise and drawers in different materials. Hamilton & Co. also had a stand in the ladies' gallery (No. 7), where Miss Franks, the manageress, exhibited a variety of underclothing on the "combination" principle, and also some patent corsets, made without bone, which, it is claimed, fit the figure perfectly without squeezing in the waist. They exhibited, too, some ladies' and gentlemen's riding shirts, the use of which apparently would add much to the comfort of equestrians. Why the last mentioned articles, however, should have been placed in the ladies' gallery, and out of sight of the male visitors, does not seem very clear. Considerable attention was aroused by the exhibition of a number of patent unsinkable garments for ladies and gentlemen, made by Messrs. F. Wentworth & Co., 12, Museum-street, W.C. Differing from other inventions of a like character, which consist in every case of vests, coats, &c., inflated with air, these garments are nothing more unsightly or inconvenient than Newmarket coats or reefer jackets—according to the sex of the wearer—into which a sufficient quantity of cork has been introduced to keep the person clad in them afloat for a considerable period. This clothing differs little in appearance from that ordinarily worn, and it is said that the weight is little more than that of other garments of their kind. Hygienic and "rational" boots form a strong feature in this class. Mr. James Branch, 161, Roman-road, E., the maker of the "Bective" glove-fitting boots and shoes for ladies (Stand No. 5), claims to have succeeded in producing a boot which, whilst it follows the actual lines of the human foot, is not so unlike that usually worn as to deter ladies from its use. Messrs. Dowie & Marshall, 455, West Strand (whose names in the prize list given in the last number of *HEALTH* were erroneously printed "Howie & Marshall"), (Stand No. 11)—who, by-the-way, possess a characteristic letter in praise of their manufacture from the late Thomas Carlyle—exhibit a number of models showing, if further proof were necessary, the disastrous effects produced by the wearing by ladies of the *de rigueur* pointed-toe and high-heel boots. A pair of this firm's shoes for children, placed side by side with those usually worn by our little ones, suggests some unpleasant reflections as to the humanity, to say nothing of the wisdom, of casing little children's feet with the un-



natural covering ordinarily made for them. A specialty in all the boots made by this firm is that the waist, or narrow part, is of an elastic material, freedom to the feet being given to the pedestrian by this system. The sensible characteristics of breadth of sole, of heel, and of toe may be observed in most of the other exhibits, notably those of Mr. Henry Marshall, 154, Oxford-street; Mr. W. Hall, 39, Edgware-road; Messrs. Waterman & Co., Bristol; and Messrs. Waukenphast & Co., Haymarket. The boots made by Messrs. Pocock Bros., 235, Southwark-bridge-road, seemed to combine in an exceptional degree the qualities of economy in price, strength, and correctness of design, and to this firm the silver medal was awarded. The variety and hygienic excellence of the exhibits in the whole of this class encourages a confident hope that the National Health Society have thoroughly awakened the public mind to the evils which characterise many of the existing modes both of male and female dress.

The following are the awards of prizes in Classes III., V., and VI. The decisions of the Judges in the other cases were given in last week's HEALTH:—

**CLASS III.—Silver Medals.**—Moule's Patent Earth Closet Company, for earth closets and other sanitary apparatus; Messrs. Hayward Bros. & Eckstein, Hayward's patent semi-prism reflecting lens pavement light; Messrs. Jeffery & Co., cheap and artistic wall-papers free from arsenic; Messrs. Jeffery & Co., wall-papers painted in oil colours on lacquered gold grounds; Messrs. Morris & Co., washable printed cotton, and other cheap and artistic fabrics. **Bronze Medals.**—Messrs. John Bolding & Sons, valve closet, with flushing rim and supply of water to trap of overflow; Messrs. Bolding & Sons, wash-out closets; Mr. O. D. Ward, household hopper closet; Messrs. Geo. Jennings & Co., housemaid's slopsink; Messrs. Jennings & Co., automatic flushing cistern; Messrs. Hayward, Tyler, & Co., full-flush valveless closets; Messrs. R. Houghton & Co., improved gully for bath waste and sink; Mr. Henry Conolly, valve closet, with supply of water to trap of overflow; J. Parnell & Son, syphon water waste preventer; Messrs. R. Boyle & Co., air pump ventilator; Mr. R. Adams, anti-accident reversible window; Mr. R. Adams, fanlight opener; Mr. G. A. Williams, patent universal and invisible outside blinds; Mr. T. P. Cook, combination cinder bin and sifter; Messrs. R. Woollams & Co., wall-papers free from arsenic; Messrs. Scott, Cuthbertson, & Co., wall-papers free from arsenic; Mr. Henry Cave, diagrams showing that wall-papers can be produced with as good an effect without arsenical colours.

**CLASS V.—Bronze Medals.**—Mr. Harper Twelvetreets, "Imperial" clothes-wringer; Victoria Stone Company, patent stone flooring; Messrs. George Salter & Co., Hughes' Patent Fountain Washer.

**CLASS VI.—Silver Medals.**—Messrs. Brown & Green, under-feeding, smoke-consuming apparatus, as applied to kitchens and register flues; Eagle Foundry Company, the "Eagle" range; Mr. J. J. Constantine, the "Treasure" cooking-stove; Messrs. Jas. Stott & Co., self acting gas governor; the Vertical Feed Sewing-machine Company, vertical feed sewing-machines with attachments; Messrs. Benyon & Co., gas stove for heating and ventilating; Messrs. Benyon & Co., "Save-all" gas cooking-stove; Messrs. B. Giles & Co., gas cooking-stove. **Bronze Medal:**—Messrs. B. Giles & Co., gas fish and vegetable steamers; Messrs. Giles & Co., gas water-heaters; Messrs. Brown & Co., mitrailleuse camp; Messrs. W. & S. Deards, "Princess Louise" stove for heating by hot water; Messrs. Potter & Sons, "Thermhydric" ventilating hot water open fire-grate; Messrs. Benyon & Co., workmen's grilling-stove; Mr. W. H. Stephenson, portable gas-heating water-coils; the Silber

Light Company, "Miratus" oil stoves for working and heating; Silber Light Company, "Wellington" reading-lamp; Messrs. H. Davis & Co., "Eclipse" griller; the Coalbrookdale Company, the Kyrle grate; Messrs. J. H. Andrews & Co., "Bisschop" gas engine.

(To be continued.)

## Sanitary Appliances, Etc.

**THE SILICATED CARBON COMPANY'S FILTER.**—What may be described as the "battle of the filters" must be regarded as being practically settled. Whatever excellences other filter-systems may present, we may rest assured that none can excel the Silicated Carbon Company's inventions, in respect of the simplicity of apparatus or excellence of results. We have had one of their "Sanitary Ascension Filters" in use for some time, and have taken pains to examine and compare the water filtered therein with that passed through other makes of filters. As the result of our examination, we have no hesitation in pronouncing that the Silicated Carbon Filters are constructed on a sanitary principle, and combine the advantages presented by other filters. The simplicity of these filters is a strong recommendation in their favour; and as the Silicated Carbon Filter Company manufacture their filters in a large number of sizes and shapes, these machines are adapted for all purposes, from the traveller's pocket filter—a handy and most necessary filter for foreign use—to larger sizes adapted for the house, for hotels, hospitals, &c., respectively. When we add that the filters of this firm are manufactured in elegant and chaste designs, we have said enough to show the very high, and in some respects, unique character of their productions. A "Carbon Tank Filter," made by this Company appears to us to be a *desideratum* on board yachts, and in all situations where a large water supply must be kept pure and free from contamination.

**MESSRS. FELTOE & SON'S "SPÉCIALITÉ" LIME JUICE.**—In the "dog-days," as well as at other times, the question of a cheap, healthy, non-alcoholic drink repeatedly crops up. Judging from the numerous inquiries addressed to us regarding this topic, there must be thousands who, unwilling to take beer, and who, tired of water, disdain cold tea, and dislike barley-water. The ordinary temperance drinks are, as often as not, uninviting, and produce acidity. Henceforth, when inquiries are made of us respecting a health-drink, we shall have no hesitation in recommending Messrs. Feltoes' "Spécialité" Lime Juice. It is by far the most pleasant preparation of the kind we have tried, and contains no medicinal substance, whilst it will not turn mouldy when uncorked. This latter feature in itself is enough to commend this liquid to favourable notice; but those who once try the "Spécialité" Lime Juice will not readily be persuaded into taking any other. As a summer drink, for old and young, it is unrivalled.

**MESSRS. ARMFIELD, of 15, Lower Belgrave-street, London, S.W.,** direct our attention to certain facts connected with the system of disinfecting clothes, &c., after fevers, which we are glad to publish for the information of all interested in the carrying out of this highly important health-provision. Messrs. Armfield do not rely on the ordinary method of disinfection by mere dry heat, as in the ordinary ovens for beds, mattresses, stuffed furniture, &c. Such a process is held by many to be ineffectual as a means of disinfection. To apply dry heat as a thorough disinfectant to such articles would require a length of time, and an exposure to a degree of heat which would injure the fabrics. This firm, therefore, employs high-pressure steam at a temperature of 300 degs. After exposure to this process, the goods are removed to a drying-chamber, and re-made in a special workshop. Such a process appears to be the most effectual of all forms of thorough and systematic disinfection for clothing and furniture, inasmuch as the disease-germs must be effectually killed and also removed by the subsequent process of re-making. The cost of Messrs. Armfield's process (carried out at their works in Surrey) is really very moderate when the thoroughly effectual nature of the disinfection is considered.

**NORMAN'S "B B B" INSECT EXTERMINATOR.**—Those who have experienced the discomfort and pain of the insect pests which both in home and foreign travel are liable to annoy the human race, must frequently have longed for some ready and cleanly method of quieting their tormentors. Messrs. Norman have succeeded in producing an article in their "B B B" Exterminator, which is likely to become widely used by travellers, and all who suffer under any circumstances from insect-pests. Sold in air-tight tin capsules, this liquid, which possesses a pleasant aromatic odour, can be in-



jected into the crevices of floors or furniture, in which the pests reside. It is non-poisonous—a feature alone sufficient to recommend it warmly to notice—and it exercises on the eggs of insects an equally noxious effect with that displayed on the adults. In respect of this fluid being a disinfectant, likewise, it has an additional claim to sanitary notice. Families and others proceeding to the seaside and country might do worse than purchase a flask or two of Messrs. Norman's preparations, whilst for the bites of "harvest bugs," so annoying in the fields, it will be found a soothing application.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

Correspondents are requested to write plainly, concisely, on one side of the paper only, and to avoid dealing with different topics in the same communication. Questions on Medical subjects and regarding Medical advice, should have the word "MEDICAL" written in the left-hand lower corner of the envelopes containing these communications. It is desirable that correspondents should adopt each a distinctive name; the use of such names as "Constant Reader," "Subscriber," &c., invariably causes confusion in assorting the Replies to Queries. We would remind correspondents that, owing to the necessity for sending HEALTH to press in advance of the date of publication, answers cannot, as a rule, appear for some time after receipt of the queries, although every endeavour will be made to secure punctuality of reply.

All Communications, &c., intended for the EDITOR—including Books for review, Sanitary Reports, Abstracts of Papers, specimens of Sanitary Appliances, &c.—to be so addressed, to 74, Great Queen-street, London, W.C. Those intended for the PUBLISHER to be addressed specially to the Publishing Department, at the Office, 74, Great Queen-street, London, W.C.

To CONTRIBUTORS.—The Editor respectfully requests that all contributions be accompanied by stamps for the return of the MSS. in event of non-acceptance. Every care will be taken of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

### LETTERS TO THE EDITOR.

THE EDITOR disclaims responsibility for the opinions of Correspondents, whether letters are signed or anonymous.

#### IS CARBOLIC ACID A DISINFECTANT?

SIR,—Your paper of May 25 contains an article on Carbolic Acid, wherein it is stated that, if used in ratio of  $\frac{1}{4}$ th per cent. in milk or flour-paste, it seems to preserve, rather than destroy, organic or living matter, and you imply that the preservative, or antiseptic, effect vitiates its value as a disinfectant.

Permit us to point out that such antiseptic action on organic matter is an ample protection against infective emanations, or disease germs, and that, consequently, the acid acts as a thorough disinfectant. Destruction of organic matter is not needful to insure thorough disinfection. This was demonstrated by Prof. Koch.\*

Regarding carbolic acid vapour, we have ample proof that, used in quantities, it is decidedly beneficial in all infectious complaints, and has a curative effect in lung ailments. Experiments lately made on cattle affected with bronchial disease and foot-and-mouth disease show that the vapour is easily tolerated and exerts a strong curative action. It may be well to add that we affix a poison label and details of the antidote on every bottle of carbolic acid sent out by us. The relative merits of carbolic acid and other disinfectants have been so frequently tested by competent scientists during the past eighteen years, and the results so thoroughly demonstrate the superior utility of carbolic acid that we do not fear any new investigations on the subject if carried out carefully by unbiased inquirers.—Yours truly,

F. C. CALVERT & CO.

[Whilst we have much pleasure in publishing Messrs. Calvert's letter, we must beg to differ from their conclusions regarding the essential similarity between the preservation, antiseptically, of

disease-poison, and the destruction of such matter. Their foot-note regarding Koch's opinion does not really bear on the point at issue. It has been proved that the spores of bacilli are infinitely more dangerous as propagators of the disease (splenic fever) than the adult bacilli. Hence, if carbolic acid is (according to Koch) unable to destroy the spores (or germs), its value as a disinfectant must be vastly inferior to those of any substance or process (e.g., heat), which will kill the spores. Concerning the doubtful character of carbolic acid vapour as a germ-killer, we must refer Messrs. Calvert to the recent experiments of Dr. John Duncan, of Edinburgh, published in the *Edinburgh Medical Journal* for March, 1883. These experiments, at the very least, open up the important question whether carbolic acid vapour, as used in our hospitals and in our homes, for disinfection, has any germicidal properties at all. Regarding Messrs. Calvert's remark, that the preservative, or antiseptic, action (as opposed to destructive action) of carbolic acid on organic matter "is an ample protection against infectious emanations or disease-germs," we may refer them for a reply to Dr. Duncan's paper already noted. We may also add—what has been already stated in HEALTH—that vaccine matter (which certainly corresponds with "organic matter" mentioned in their letter), mixed with 1 in 50 carbolic acid, regained its infective power after exposure to the air for 10 days. This fact was discovered by Dr. Dougall, of Glasgow. After such an experiment, the general value of carbolic acid, acting thus as a merely temporary arrester of the life of disease-germs, is certainly open to question. We may refer Messrs. Calvert to the article on DISINFECTION in Quain's "Dictionary of Medicine," for a resumé of the opinions respecting carbolic acid held by the medical profession. In his report to the Lords of the Council (1875), Dr. Baxter says (p. 255):—"The use of carbolic acid vapour should be abandoned, owing to the relative feebleness and uncertainty of its action;" and again, "To make the air of a room smell strongly of carbolic acid, by scattering carbolic powder about the floor, . . . is, so far as the destruction of specific contagion is concerned, an utterly futile proceeding." On the whole, it seems very desirable that, with these opinions before us, we should have a thorough and final investigation of the exact standing of carbolic acid in all its forms as a true disinfectant.—ED. H.]

#### VEGETARIANISM.

SIR,—Allow me to reply to "Surgeon," in your issue of June 1. Most naturalists have admitted that the natural foods of man are fruits, roots, nuts, grains, and green stuff. We ought in a great measure to follow the seasons; in summer to take light and non-stimulating food, as the fruits, in autumn and winter more heating foods, such as grains, fruits, and nuts, which latter are rich in oil, and, therefore, useful in cold weather. Our country is too cold for a pure unmixed fruit diet, but a mixture of grains and fruits contains everything necessary for health and hard work.

That man can live on meat alone no scientist will deny; that he gets on well on a mixed diet is also admitted; but we vegetists say that he does not attain his full mental and bodily vigour unless he abstains from flesh. We have many facts in support of this, such as a vegetarian adopting a mixed diet losing his former bodily activity, and becoming dull and heavy in place of his former lightness. On the other hand, most converts inform us of the greater buoyancy of spirits and ease in taking exercise since adopting vegetarianism.

Having given vegetism a trial of sixteen months, I am able to compare my present and former state. My results are such that I would not willingly return to my mixed diet. No one can afford to lose so much health and good spirits as is induced by vegetism. The cattle would not trouble us long; we should not let them breed, and in ten years they would nearly all have died out. On the land they occupied, we should grow corn, roots, and fruits.

"Surgeon's" illustration at the finish will not hold good, because he only gives half the fact. When vegetable or animal food is taken to the stomach, it is there split up into primary compounds before it can enter the system, and meal food is no nearer than animal food. We could even argue the other way, that it has to be broken down and reconstructed before it can enter the system. Let us put it properly. A mason builds a house with new bricks, then pulled the house down for the bricks, and built another house. The result would be that he would have on hand a great many odds and ends which were useless. The same in eating animals. We cannot eat their bones, skin, tendons, hoofs, horns, &c., which are all made from its food.

There are thousands of us now in Great Britain who show by our lives the uselessness of flesh meat as a necessity; and, besides, we have no desire for stimulants or tobacco; consequently, doctors don't make much out of us.

T. R. ALLINSON, L.R.C.P.

115, Great Russell-street, W.C.

June 7, 1883.

\* Prof. Koch reports that "Carbolic Acid does not act on the spores of 'anthrax bacilli,' but is destructive to the living micro-organisms, one gramme of pure carbolic acid preventing development of same in 850 c.c. of a nutritive solution."



## VENTILATION OF FACTORIES.

SIR,—As a worker in a mill in which many of my friends suffer from dust, want of ventilation, and bad closet accommodation, I do hope and trust that the health teachings of your most valuable journal will have the effect of convincing employers of labour that by making their mills, factories, &c., perfectly healthy they will gain equally as well, if not better, than their workpeople.—Yours faithfully,

J. H. WILSON.

15, Bradford-road, Leeds, June 4, 1883.

## QUERIES AND ANSWERS.

### GENERAL.

- C. KEGAN.—No; not at present.  
 B. BRUCE.—See our papers on the "Skeleton."  
 N. B.—We cannot say, without further particulars.  
 G. ORD.—Probably in six months; not sooner.  
 E. A.—In Wiltshire.  
 G. P.—Try Messrs. Longmans & Co., or Messrs. Kegan Paul & Co.  
 C. COWPER.—A few authorities say so, but the bulk of opinion is against them.  
 ALICE G.—See each's "Botany."  
 B. HOWARD.—N.; the tale on which the drama is founded is correct. See Dr. Andrew Wilson's "Leaves from a Naturalist's Note-book" (Chatt & Windus), page 39.  
 T. LINKLATER.—See our papers on "The Body."  
 G. OWEN.—Not at present.  
 J. H. BALDOCK.—You are entirely mistaken in your observations. We recommend quantities, not "pennyworths," &c., in HEALTH. Please refer us to any reply wherein we have recommended the purchase of drugs in the way you suggest. If we had occasion to do so, and thought it would benefit our readers, we should certainly do so—your complaint notwithstanding. You must have been labouring under some delusion. If you read our replies (with any degree of attention) you will see we are very good friends indeed, both to sound pharmacy and to pharmaceutical profits, upon which, of course, professionally, you are perfectly right to keep a keen eye.

### SANITARY.

- G. CARPHIN.—About three pints.  
 ALCOVE.—Yes; the system you name should give satisfactory results. We do not know a better.  
 ENDLESS.—See the "Germ Theory" articles.  
 SPONTANEOUS G.—See reply to "Endless."  
 PUZZLED.—The explanation given is not correct. See page 240 of the manual where the statement appears.  
 CALEB THORNTON.—The substance you name is well-known as a disinfectant. Opinions differ regarding its value, but we believe it to be effective. Thanks for the cutting.

### MEDICAL.

- J. FRANKLIN.—Try the effect of inhaling the vapour of sulphurous (not sulphuric) acid. Buy a small phial of the acid from the druggist, and sniff it frequently, taking care lest the odour be too pungent. Gargle also, with a teaspoonful of the acid dissolved in half a tumbler of water.  
 J. HENDERSON S.—The little sufferer is apparently troubled with a form of bronchitis. Our advice is to take her for a change at once. As you are near the Clyde, try what a month at Kilm, Dunoon, or Rothesay will do. If the cough continues, have the chest thoroughly examined by a physician. A change to the sea often works wonders in such cases.  
 SCOTSMAN.—Give up your "studies" at night for a time. Try the effect of sponging with acetic acid or vinegar at night, adding a little to the water used. Read also the directions for scurf in our papers on the "Hair."  
 "HEALTH" (Oban). See reply to "Ironopolis" in HEALTH, No. 9. You must not get low-spirited, as you really suffer from no disease whatever. Live temperately, but well. Exercise moderate; and sea-bathing, if it agrees with you. Write again if not improved.  
 THANKFUL.—It is difficult to advise you as you do not mention your occupation. We should imagine you are somewhat rheumatic in tendency. Try the effect of hot baths, with Tidman's or Brill's sea-salt therein. Warm vaseline rubbed on the joints may improve their condition.  
 J. CRON.—Try a course of mineral waters, such as "Æsculap" or the "Victoria Ofner Bitter-Water," which is slightly stronger than "Æsculap." Take vegetable dietary for a time also. By such means you will get your system into healthy condition, and will do away with the affection you complain of.

T. H.—Have you tried Carbolated Vaseline? If not, do so. Wash the knee thoroughly with soap and warm water, and apply the vaseline, which you can obtain at any druggist's. If not better, write again.

A. Z.—We do not think any medicine will affect the condition, which, as you say, is more mental than physical. We do not agree at all with you regarding the cause. If your general health is good, why should the redness trouble you? Try a tonic. Mental effort should do more to relieve you than physic.

CLERK.—Try the tonic recommended to "L. Jarvie," in HEALTH No. 9. You appear to be in a weak state of health, and such cases as yours are common enough. Don't alarm yourself, but try the tonic, and take a change of air or holiday if at all possible. Go to the seaside if it agrees with you.

CURLY WIG.—(No more postcards, if you please. If advice is worth having, it is at least worth a letter.) We have an article on "Hair Dyes" in type. See future "Hair" papers.

DOUBTING ONE.—Wash frequently with lukewarm water and soap. Attend strictly to cleanliness, and dust the parts with "Fuller's Earth." Take a mild aperient occasionally.

W. H. C.—We must refer you to our papers on the "Hair." If you study these you will find several recipes given for the affection of which you complain.

A. H.; B.—Thank you for your clear statement. By all means accept the English situation. The change may do you a world of good. We fancy you were affected as the hospital physician said, only the symptoms you describe appear to point more to general ulceration than to localised action of that kind. There is no reason why you should not recover, as you say you are now stronger. Have you tried the "Beef Peptonoids" of the Maltine Company. A little of this food goes a long way in cases such as yours. There is no suspicion of malignant disease in your case. With rest, light work, and care in food-taking, such as you can exercise, taking light foods, concentrated (so as to avoid giving the stomach too much trouble), you may get quite well. We shall be glad to advise you further if needful.

UNGLÜCK.—You might try a gargle of one drachm tannin to six ounces of camphor water, using this three or four times a day. A gargle of Condy's Fluid (about a tablespoonful to a tumbler of water, or rather less) might also do you good. You ought to see also to your constitutional state.

CYMRO.—See advice to "CLERK" above. As regards your former affection, keep your mind quite easy. Improved general health will relieve you entirely of all symptoms.

STOBBS.—We advise rest, and absence from home for a time. A lazy holiday at the seaside, or elsewhere, would do you a world of good. The tonic recommended to "L. Jarvie," in No. 9 of HEALTH, should certainly be tried.

NEPTUNE.—The book you have read is a quack production, a perusal of which naturally frightens the timid, and causes them to fly to unsavoury sources for relief (?); the pocket being considerably lightened in the process. You should know that what you complain is not a sign of disease; we should say it was rather a sign of health. Rest assured no harm can come to you through that source, at least. By all accounts you are in good health; but cultivate a little cheerful society, and be a little less of the recluse.

M. H. C. R.—Yes, the treatment is good. No; blistering would not be so efficacious as the poulticing. The treatment mentioned is that approved by medical authority. See to the child's warm clothing thereafter.

JOHN LINCOLN.—From your description of your symptoms, we think it clear that you suffer from a form of asthma. You must not, however, get low-spirited, for at your age the affection should be curable. 1. Certainly try a change of air, which, as often as not, aids the cure. 2. Attend to your diet. Breakfast at 8; dine at 1; and sup at 7; and take no fluid for an hour before or three hours after dinner and supper. 3. Food, light but nourishing. 4. Avoid stimulants. 5. For the attacks, when breathing is difficult, try a cup of strong, hot coffee, or smoking stramonium cigarettes. The following prescription may do good:—Tincture of Lobelia, 2 drachms; spirits of chloroform, 3 drachms; tincture of conium, 3 drachms; mistura amygdalæ to make up 6 ounces. Mix. A tablespoonful 3 times daily.

BENEDICTUS.—The pamphlet you enclose is the production of a filthy quack. Do not alarm yourself; you suffer from no disease, and the quacks only frighten such as you into believing you are dying. See advice to "Ironopolis" and "Tempus" in No. 8 of HEALTH. Cheerful society, moderate exercise, avoidance of stimulants, or taking fluids before retiring to rest, with cold bathing (if it can be borne) should cure you.

KAPPA.—Our advice to you may be summed up by saying (1) Rest after your food; (2), take a more nourishing dietary; (3), take a tonic, such as "Fellow's Syrup of the Hypophosphites," which, if taken (a teaspoonful for a dose three times a day, in a little



water) for a week or so, will effect a marked change in your symptoms. You suffer from general debility. Try change of air, when possible.

C. A. G.—Possibly you suffer from indigestion, which, with liver disorder, would account for your symptoms. Take more exercise, and an occasional dose of "Æsculap" water. Rest after food. Write again if pain continues.

C. J. WILLIAMS.—Try the effect of leaving off your beer, for a time at least. The "meat tea" is bad for you; rather take a light lunch, and a solid dinner, at least four hours before bed-time. Do not smoke immediately before going to bed (you should smoke less than you do), and follow the advice given to C. A. G. above. Don't try any more of the herbalistic rubbish.

J. McG.—1. No; consult a qualified surgeon or physician. 2. A sea voyage would do you good, or residence in a bracing air (see our "Health Resort" papers). 3. A sea voyage would probably rid you of your bronchial affection. The preparations you mention cannot do much good. 4. Food, light but nutritious: Fish, meat (well cooked), rice, tapioca, milk, &c. 5. The advertisements you allude to will not appear again in our pages. On inquiry, we found neither the articles you mention to be genuine. 6. The transparent soap. 7. Your affections are due to cold acting on a weakly system. P.S.—See that you renounce the habit you speak of, otherwise you will continually be weak and debilitated.

FRANK.—Touch the warts daily with strong *acetic acid* (be careful in using the acid so as not to allow it to touch the surrounding skin), after paring off the part which has succumbed to the acid's attack. They may also be strangulated by tying a ligature tightly round the base of each.

HOLLANDIA.—What is your normal constitution? Are you full-blooded, or what? We should advise you to try small doses of the "Victoria Ofner Bitter-Water," as an aperient likely to do good. What is the state of your general health?

A CONSTANT READER.—(Please adopt some more distinctive name.) A course of hot salt-baths we think likely to do you most good. If you could visit the seaside and there have the baths, you would probably find both your pains and cold leave you. A complete change of air is usually the first and best means of curing a chronic cold. For the pains try bromide of potass in fifteen-grain powders, one dose each night on going to bed.

TROUBLED EUSTACE.—Cases such as yours are highly difficult to advise without actually seeing the eyes. We think our best advice to you is to have the eyes again examined by a competent oculist. Visit Mr. Browning, 63, Strand, London, who makes a special study of glasses. His system of fitting glasses, which we know by experience, is thoroughly to be relied upon.

HOARSENESSCO.—Have you tried an occasional gargle with sulphurous (not sulphuric) acid—one part to, say, 8 or 10 parts of water? That may relieve you greatly. In such cases as yours we have generally found change of air, and especially to the seaside, do much good. See advice to "A Constant Reader" above. Inhalations of various substances (*e.g.*, iodine, &c.) often do good, but we should say try a week or longer by the sea, first of all.

T. G. (ST. JOHN'S).—Rest after your meals. Your condition is due to want of such rest, hence your troubled digestion. Give up your tea and coffee, and try a cocoa (such as Tulloch's) instead. By all means try Margate. The air is extremely pure and bracing. A slight aperient (such as "Æsculap" Water) would now and then do good.

AMICUS.—You are possibly out of sorts. Suspend the practice for a time and take rest and nutritious food. Fellow's "Syrup of the Hypophosphites" should do you good, as a tonic. The appliances you mention are in our opinion (formed after due investigation) worthless.

BELLA.—We should recommend you to place yourself under the care of a medical man, who will probably give you some medicine which will relieve the swelling. The latter is due to internal causes, which a physician alone can remedy. The eruption on the feet is quite a common result of cold-water applications.

JAMES G. HEDDLE.—The practice of taking tea or coffee to dinner is not to be commended. Either retards digestion. Do you find you require any other beverage than water? Why not give water a trial at dinner, and take tea later on—say two hours afterwards? We would recommend a little light claret in preference to beer.

J. D. LEIFRETTUB.—1. Try a gargle made of three grains of tannic acid to the ounce of water for the throat. 2. Follow, for the rest, the advice given to "Amicus" above.

PATHFINDER.—We think you should consult a surgeon concerning the swellings. From your description, we should still say they are not "ganglia;" but appear to us to correspond very much with the symptoms of a skin-disease. You should apply at a hospital for skin-diseases, and obtain advice. If the swellings are what we believe them to be, they should be removable by medical treatment.

GNAL.—You seem to be in a weak state of health. For the

nose-trouble, syringe the nostrils with a solution of one grain permanganate of potash to two ounces of tepid water. 2. Your stomach-troubles appear to be of chronic nature. We should recommend you to consult a good physician, who will satisfy you regarding the symptoms you describe. You evidently require general and thorough treatment, such as a physician, seeing you for a time, alone can give. A change of air—to the sea—would benefit you.

QUESTIONER.—There is no medicinal substance which will remove the marks you speak of. Occasionally surgeons are able to efface them by a skin operation.

E. B. LOYND.—There appears no reasonable doubt that those are correct who say you suffer from nervous prostration, in which the body at large participates. Yours is not a singular case by any means. We advise you to take complete rest and change. Stay by the seaside (Blackpool, or Southport, or the Isle of Man would suit you, we fancy) for at least a month. No medicines will ever benefit you without complete rest and change.

W. R.—D.—We cannot think, from your description, that you are in any way seriously ill. Have you tried a change of air for a week or so? Continue the medicine—for a time, at least—and then try the tonic recommended to "Amicus" above.

P. T.—Your case well exhibits the evil effects of ignorance or thoughtlessness in aperient-taking; and you are suffering from derangement of digestion brought on thereby. Leave off all aperients, and try (when required only) a little "Æsculap" water as a mild purgative. As regards food, take milk, &c., and give the stomach as much rest as you can. If your holiday-season is near, use it wisely; take a long rest, and you will recover in this way more speedily than through any other form of medical treatment.

CALEB THORNTON.—Try eating a few charcoal biscuits for bad breath. Look to the state of your teeth (see article on "Teeth" in No. 1 of HEALTH), and rinse out the mouth frequently with Condyl's Fluid and water.

E. F. T. B.—You are not over well placed. If you prefer inland, Peebles ought to suit you well, or Innerleithen. Melrose, if not too relaxing, might suit the child. Haddington would not be sufficiently far off for change, we fear. Perhaps Melrose, of all the places mentioned, is that to be preferred.

A. B. C. E.—Try the following: Iodide of potass, two drachms; infusion of calumba, six ounces. A dessert-spoonful to be taken twice daily. Clothe warmly, take nourishing food, and avoid stimulants.

ANXIOUS FRED.—We should advise you to try inhalation by means of an ordinary inhaler. Try inhaling the vapour of oil of turpentine, or of tannic acid, adding a few drops to each ounce of water used. There is no danger to be feared from the phlegm. For the liver-symptoms, change of food, the substitution of vegetables for meat occasionally, and the occasional use of "Sparkling Ems Water," will benefit you.

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The first Monthly Part just ready, including Nos. 1 to 7, price 1s. 4d.; post-free, 1s. 8d.

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The terms of Annual Subscription to the weekly numbers of HEALTH are as follows:—

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All subscriptions are payable in advance. HEALTH will also be published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# HEALTH

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LONDON: FRIDAY, JUNE 29, 1883.

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## Notes by the Way

Health is the foundation of all our physical happiness.”—Herder.

INFLAMMATION of the lungs, as every one knows, is a highly serious malady, usually brought on through exposure to chill and cold. If a number of persons in a given district are affected with this complaint, it is presumed that they have exposed themselves to cold, and that a common and prevalent atmospheric condition has thus produced the disease. Now, it would seem as if another theory of the occasional prevalence of lung-inflammation (or *pneumonia*, as it is technically named) was destined to supplant the above explanation. It is urged that this disease is of epidemic type, and that it may be propagated from the ailing to the healthy. If this is proved to be the case, it will show that there may be many other apparently non-infectious diseases, whose prevalence at given times may in reality be due to the distribution of the poisonous material which contains the power of producing the malady.

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THERE is no denying that the anti-vaccinators have received a severe blow in the form of the Commons' decision of last week. Sir Lyon Playfair's speech was a piece of cogent reasoning which showed clearly enough that efficient vaccination had conserved the nation from small-pox epidemics such as formerly devastated the land. We repeat here what we said a few weeks ago in our “Notes.” Bad vaccination is a horrible operation, and entails—through carelessness regarding the source and quality of the lymph used—very serious results upon the subject. But good and carefully supervised vaccination is a wise and admirable measure. For one child who succumbs under vaccination there are hundreds of thousands who are not affected beyond the well-known passing disturbance due to the operation. All that is wanted to make vaccination, in our opinion, completely unassailable as a public measure of the highest good, is care in the selection of the lymph used.

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FRESH horse-flesh is esteemed by the Parisians as an article of food. In the French capital, however, it is sold as such and the hippophagists know what they pay for,

and what they consume. In Bermondsey, London, horse-flesh appears to be sold for beef, and the British public are thus deceived into imagining they are consuming bovine material, when, in reality, the equine species furnishes the food supply. Young and tender horse-flesh may be, and very likely is, good to eat—only we must regard it as a violation of ordinary honesty when this material is sold under the name of “beef.” And horse-flesh in Bermondsey, besides, is not likely either to be young or healthy after having passed through the “knacker's” hands.

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ON July 3 and 4, a conference on the Administration of Hospitals is to be held at the House of the Society of Arts, under the presidency of Sir Thomas Fowell Buxton, Bart. This is a wise and judicious step, at a time when the application of hospital funds and hospital management at large require thorough investigation.

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WE would wish to direct the attention of the clergy, of teachers, of parents, and of all concerned in the guidance of youth, to the necessity—as a matter of common kindness, to say nothing of health—for providing shelter for the children whom they invite to attend *fêtes*, Sunday school trips, and the like. A few years ago we happened to be returning home by steamer from a coast visit. The day was Saturday; it had broke cloudy, and by noon the rain was falling in torrents. On board the steamer, at six p.m., four or five hundred children were packed. They had spent the day in the woods, but by night, without an exception, all were soaking with wet. In this state they had to sit or stand about, and shiver during an hour's sail—and for how long thereafter, who can tell? It is sheer cruelty to ask helpless children to spend a day in the country, and to make no provision for wet. How many lung-complaints a wet day may, and does, set up; or how much misery and expense are caused by the illness of children engendered by such occasions, who can tell?

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IN almost every street, during the summer weather, the Italian “ice-cream” barrow, gorgeous in green and yellow, and superintended by a smiling gentleman or lady from Naples (or elsewhere), may be seen. Around the vehicle swarms of children cluster like bees or ants about a jar of honey. For the investment of a half-penny a glass of “ice-cream” may be had, and then, innocent of spoon, that commodity is “licked” out of the glass, to the intense delight of the juvenile population. An investigation into the nature of this “ice-cream” would, we fancy, be advantageous in the interests of public and juvenile health. Of “cream,” the compound, it is needless to remark, is entirely innocent. So far as our researches are concerned, it appears to be made of some combination of ground rice, flavoured with sugar and with some essence or other, and frozen into a state of coolness, which is doubtless gratifying to the youthful palate in the dog days.

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THE health aspects of the ice-cream trade are numerous. Firstly, there must be considerable risk of infection incurred in the universal use of unwashed glasses by all and sundry amongst the Italian's customers. The glasses are rarely, if ever, washed, and as we have been witnesses of a case wherein a nasty ulcerated mouth in a young boy was traceable apparently to the “ice-cream” refectations in



which he had indulged, it is tolerably certain that, amongst the poor especially, serious disease may be transmitted through the common and general use of the "ice-cream" man's utensils. Again, the materials used in the manufacture of the "cream" are not likely to be of the best quality. Lastly, the habit of loading the stomach with masses of cold matter of unknown nature may, very likely, account for more cases of juvenile ailments in summer than parents or doctors suppose. The "ice-cream" barrow requires supervision in the interests of juvenile well-being.

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WE hear of an ingenious device whereby the fatal drowning accidents which are so prevalent during each bathing-season may be averted. It is proposed to construct a safety tank which may be lowered or raised into and out of the sea whenever required. For juvenile bathing, the tank could be immersed two or three feet, and for adults proportionately deeper. On a swimmer being seized with cramp, the tank or platform could be elevated at once. This invention appears to meet many of the wants which not a few sea-side places experience in the lack of safe and suitable swimming and bathing accommodation.

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THE Sunderland disaster recalls to mind several points connected with the care of our little ones, which, at the present season, should have the special attention of parents and guardians. Beyond the contention that children should not be sent to a place of public entertainment unaccompanied by adults, there remains the suggestion that it is a wretched idea of "entertainment" for children (or adults either, for that matter) to pen them up for two hours in a gallery, near the roof of a theatre or hall, where they are exposed to all the noxious influences of carbonic acid gas, and other waste matters breathed out of the lungs. Any one who has put his nose inside the gallery door of a theatre when the performance has advanced some way, will be able to endorse the statement that the experiences of the Black Hole of Calcutta has its modern representatives amongst ourselves.

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FROM Paris comes the news that an official of the French Foreign Office has been infected with yellow fever through a dispatch which had come from Brazil. That paper may, and often does, convey infection, is well known. Convalescents from small-pox and scarlet fever, anxious to communicate with friends, and ignorant or forgetful that the scales from the skin are charged with the fever-poison, write letters, and thus spread abroad these diseases. Books from circulating libraries, used by such patients, serve as media for conveying infection. The remedy for the evil is plain enough. When people begin to recognise, as fully as they ought, their duty to their neighbours, they will not, through ignorance or carelessness, use, or allow to be used in sick rooms, any book which is liable to pass out to the public charged with infection.

\* \* \*

MANY readers will remember the twin-steamship *Castalia*, now replaced on the Calais and Dover route by the *Calais-Douvres*. The *Castalia*, it seems, is now to pass into the service of health and hygiene, since it is proposed to moor the vessel in the Thames off Long Reach, and to utilise it as a floating small-pox hospital. The idea of a truly marine hospital for infectious diseases has always appeared to us as one which contains, in itself, the basis of an important sanitary measure which the future may see developed in a full and complete fashion.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### DISEASE AND ART.

THE function of the poet, as one of our greatest thinkers puts it, is to be true to nature. Possibly there can be, as things are, no higher or better criterion of poetic art than that which recognises in the efforts of the poet the attempt to convey lessons or ideas of worth as these ideas are represented in the external world or in the nature of man. The poet who was colour-blind could not discourse truthfully concerning the greenness of the grass, the hue of the flower, or the tints of the sunset. If he described the appearances and ways of living beings, keener observers of nature, although more prosaic in their words, would be entitled to assume that the poet was no trustworthy observer, and as little to be regarded as the interpreter of that which is beautiful and true. Even the rhapsodies of poetry are only powerful when they at least reflect the truth as it is in nature or in man. Sooner or later the false simile, or the absurd and erroneous metaphor, will be detected and exposed, and, by as much error as after-observation detects in the poet's works, will his claims to rank high or low in the exalted circle be estimated and judged. What is true of the poet, holds true with greater force still of the painter and his work. He, more directly than the poet, perhaps, is concerned in the depicting of the true as it exists in nature. If he draws an elf, his work will be judged by the laws which use and custom, founded on tacit ideas of misshapen humanity, have established. The fairies that revel in the moonlight must be symmetrical beings, capable of criticism by anatomical rules, and presenting no marked infractions of the conventional ideas of form and feature to which the painter himself owes their creation and evolution. With humanity itself as the subject of his art, the painter's work must submit to criticism of a still more fixed and stable type. There is not one rule of art-criticism for the painter and another for the anatomist. An error in the anatomy of the "Quoit-thrower's" arm is the "little rift" within the poetic lute; and a misshapen trunk or a lack of proportion would have condemned the Apollo Belvedere, or the Venus de Milo herself, to the limbo of forgotten nonentities. Trees and flowers, sky-effects and rainbows, possess features which the student of nature recognises as constant and unchanging. The wholesale variety of nature merely overlies a stable and unvarying constitution. If Nature seems capricious in her moods, the uncertainty, after all, is a matter of limitation; and no artist can afford to play fast and loose with so-called "effects" of sun, sky, water, trees, and flowers, any more than he can attempt successfully to depict the human form in other guise than that which its anatomical examination and symmetry disclose. Science, in short, appears on the scene as the censor of Art; and Art is wise when she cheerfully accepts the criticism Science bestows.

If this is true, however, of mere scientific details of man and nature, as depicted by the painter, the idea of scientific criticism is somewhat less feasible when applied to prevailing tastes in art. There is no canon whereby artistic "taste," as such, can be judged. To some eyes, a "fashionable" pinched and waspish waist, with broad shoulders, and hips that bulge relatively to the corset-girdled chest, may present a figure beside which the Florentine Venus herself is of none effect. Yet it might



be impossible to convince such a mind that his taste was debased; for there is no common ground from which an argument might be conducted. So, also, the rosy cheeks and rude health of the country lass might be regarded by many as savouring of vulgarity; and if such an opinion were expressed, how is the standard of taste, which prefers the ghastliness of the anæmic or bloodless cheek, to be refuted or deposed from the seat of authority? To revolutionise "taste," then, is a matter of singularly difficult and complex nature. By many the labour may be deemed futile and impossible. Given a prevalence of taste in a certain direction, and a preference for a particular mode of fashion, and all the efforts of science and reason combined, will not avail for the extinction of what is admittedly abnormal and erroneous when judged by ordinary rules of common sense.

In the art world of to-day there appears a tendency which, so far from presenting us with examples of the pure, healthy, and beautiful in nature and humanity, may legitimately be described as devoting itself to the worship of actual disease. We are all familiar with the outrageous absurdities of the so-called "æsthetic school" of art. The inanities of those who imagine that a maudlin phrase solves the mysteries of beauty and being, have been more than sufficiently satirised in the comic journals, on the stage, and by healthy art criticism itself. But the craze continues. It crops out in our picture-galleries, it shows itself in art tendencies elsewhere, and it even repeats itself in our architecture when it contracts our windows, deprives us of Heaven's best gifts—light and air, and causes us to sit in the semi-obscurity of an irrational and meaningless gloom. Let the candid observer glance around the picture-galleries, and observe how the modern artist of the school to which we allude, delights to wallow in the air of the sick room, and amid the atmosphere of the hospital. We have in our mind's eye more than one painting in which females represented are depicted with the pale, weary, sallow, and unhealthy complexions that one sees in the waiting-rooms of medical men and in the hospital wards. The idea that the painter had chosen his models from the dispensaries is, after all, justifiable enough—unless, indeed, the young ladies, in the language of "Patience," are "not quite so ill as they look." There is not a healthy flesh tint in any one of the paintings to which we allude. The medical mind, gazing at such productions, feels tempted to burst forth into recommendations of iron and sea air as tonic remedies. The figures are lean and scraggy. Painful muscular prominences, particularly in the neck region, seem to indicate that the ladies in question suffered from rapid emaciation and general wasting of tissue at the period of their artistic delineation. "Æsthetic" jaws—which are lean—match "æsthetic" necks, which are long and attenuated; and in one case, wherein certain females are represented by the waters of wailing, the ingenious mind might feasibly enough account for their tears on the theory that they had been grievously afflicted with severe bodily illness.

Science has to repeat, in the face of these æsthetic follies, that whatever the artistic excellence of the paintings, the artists are pandering to a diseased and not to a healthy taste. There is surely beauty enough and to spare in this world, without the need for depicting men and women in the semi-nudity of wasting disease. If this be "taste," we admit that no argument can avail against its prevalence. That which people prefer, in art, becomes the law and canon of their art-life. But we have still faith enough in the healthy tone of English art to believe that the national common-sense will never lapse into the morbid half-lights of the "intense" school. There can surely be no need to

fear that, as a cultured nation, we shall come to prefer the tenants of the out-patients' room, and their pains, as art-subjects, over the purity of body that reflects the influences of fresh air, good food, and the other attendant conditions of health. Art should be the minister of health and not the servitor of disease.

### "FAITH HEALING."

BY EDWARD H. RICHES, LL.D., F.R.A.S.

[In presenting this article to the readers of *HEALTH*, we may say that we are fully convinced of the correctness of the descriptions given by our contributor. That which requires further investigation is the possibility of mistake in diagnosis of the ailments, and also the influence of mind over body, which may have been illustrated in his recital.]

It has been well said that a hale cobbler is a better man than a sick king. With matter-of-fact sense, too, La Rochefoucauld had it that, a preserving of the health by too strict a regimen, is itself, a wearisome malady. It is hardly to be wondered at, however, that in these days, when, by a proper adjustment of those scientific laws which would seem to be within our grasp, we should, in all earnestness of resolve, endeavour to formulate a means for the preservation of our health. Doubtless, the majority of our physical diseases arise from a careless neglect of the body, owing, in a great measure, to mental overwork; for the brain, which in this age of hurry and rush, being incessantly at an abnormal tension, in itself would react deleteriously upon the bodily functions, and, in addition, by its own absorption of our time and mental leisure, would materially lessen our chances for giving much thought to the body and its requirements. It may be that we live longer than our forefathers; but certainly, when we compare ourselves with them, we find that we suffer far more than they did from those artificial cares and anxieties which exhaust the finer strength of our nerves. Certainly, as the wise and good apostle says, "We live by faith;" but if that faith be without principles of a sound and stable nature, then it may lead us into a phase of self-willed positiveness, resulting in a rampant state of fanaticism. The faith professed by a certain class of persons connected with a place in London which they have called *Bethshan*\*, situate in Drayton-park, Holloway, is that which is undoubtedly founded on principles which are quite orthodox; but whether the application of those principles be entirely free from error is a question which is, at present, hardly discernible. Whether, then, the means for preservation of, and restoration to, perfect health, adopted by those unquestionably religiously-minded people, is one which is to make headway in our popular belief remains to be seen. Of course, all things new and marvellous (for the reason, maybe, that as yet they are unfamiliar to our perceptions and experience) are rarely credible to the majority, unless supported by incontestable evidence; and the marvellous cases of cures by faith occurring at Bethshan, as reported each week in the *Christian Herald*, appear to be entirely unsupported by

\* It is interesting to the Hebrew student to note that "Bethshan" is, primarily, *the house of the tooth*, probably on account of the Hebrew letter *Shin*, both in shape and meaning, signifying *tooth*; then, secondarily, *the house of ivory*, the material of which the tooth was supposed to be made; and as *houses* and *beds* were sometimes made of ivory (Amos iii. 15; vi. 4), by an easy transition, well understood, the word came to mean *house of rest*. It is true that "Bethshan" also signifies sometimes, but very rarely, *a house of change*; but this is no more surprising than, from the same Hebrew root, *barak*, we get the idea both of blessing and cursing.



any evidence whatever within the reach of the readers of that paper.

The simple means adopted and advocated by these people to bring about a cure is this: A perfect faith in God's power and willingness to heal *any* disease whatever, with a consequent entire surrender of self to the Divine Will. That marvellous cases of cure—certainly beyond all credence by those who have not any evidence as to their genuineness—are reported each week, any one may assure himself if he but take the trouble to read them. As a specimen of such cases, a few may be here briefly stated. A young woman (whose name is mentioned in the account) had suffered from diseased bones for *thirteen years*, the last five of which she had been compelled to use crutches. Suddenly, while in the room at Bethshan, the crutches were thrown on one side, the young woman was seen to be perfectly well, walked out, passed down the street, and entered a tramcar. Another case was that of a lady suffering from spinal disease. She had been a governess, but had been obliged to leave her situation in consequence of her complaint. She went to several hospitals, but with no avail. Seven years ago she was brought up to London to see a physician, who ordered her an instrument which it would be necessary for her to wear.

For six years she was so ill that she was not able to read or write, or bear any noise. The report of this case closes thus: "Last Saturday evening the Lord *healed her instantly*." The next day, it is said, she walked seven and a half miles, and sat out a meeting of three hours. There is a further case reported of a man who had been a *hunch-back* since the age of fourteen years. This man discovered, by watching his figure as he passed the shop-windows, that he was gradually being cured of his deformity by having faith that God would heal him. In this alleged case of cure it is certainly open to comment, whether, upon a scientific investigation being made, it would not have been seen that, as the man was not born with a hunch-back, it was but a temporary deformity.

Without mentioning details, the following are cases of sudden cures by faith which have been fully reported:—Internal tumours, impediment of speech, sciatica removed, lameness of many years, heart disease, paralysis, a lady suddenly cured of an incurable complaint, chronic disease of the bowels, cancer, consumption, deafness, an injured back (a workman smothered under a fall of earth), lost reason restored, &c., &c.

Space forbids our extending this list, but it is worthy of note that in all the cases reported it would seem that the sufferers had been either attended by medical men, or had been in hospitals. Now, to affirm that even the worst of these cases, and those apparently the most difficult of cure, cannot be healed by the means advocated at Bethshan would not be right; but the question which presses forcibly upon one is, *have such cures really been effected?* One would think that the reverend gentleman, who is, by-the-way, a clergyman of the Church of England, and responsible for these reports of *Cures by Faith*, would furnish to the ordinary reader of such reports some satisfactory evidence.

There are many who would say, and most justly too, that were these cases sifted and thoroughly investigated, they would prove to be hallucinations only. Then arises the reflection, if this so-called *Faith-healing* be but a delusion, we can ill afford, in these days of anxious thought and inquiry, to allow anything to exist which can add fuel to the fire of the doubter. If *even one* of these cases of cure be true, can it be right, can it be fair, can it be to the glory of God, that it should be simply stated, as any other newspaper paragraph, without a tittle of evidence, as to its

truth and authenticity? Why should the Rev. Mr. Baxter, or any who may be connected with this modern home of miracles (if such it be), hesitate to lay before readers of the cases of cure (which it may be presumed *they* could vouch for) the necessary reliable and incontestable evidence? It would seem, that failing thus in a most essential point, is a matter which involves grave considerations in reference to a shortcoming which is simply unpardonable. If such cases as those before referred to be true, then those who have the ability to testify as to their truth are, by failing to do so, guilty of withholding from men a patent example of God's power and willingness to heal now, as in the days gone by, as many as may come to him in faith. Surely *one* such example, if *satisfactorily* vouched for, would make the whole church of God on earth rise in unison in one great anthem of "Lord, I believe," and following close would come a wail of agonised conviction from the sceptic and the avowed atheist of "Lord, to whom else should we go?"

But the fact of the necessary evidence failing to come from those quarters which ought, it may be reasonably supposed, to supply it, should, it would seem, induce all earnest ministers of religion to satisfy themselves, by personally attending one of the meetings at Bethshan. Should the result of such a visit be *entirely convincing*, they would then surely be armed with a mighty weapon when in the pulpit or on the platform. If this particular phase of modern miracles be discernible, does it not behove all ministers of religion to avoid apathy in this matter for the sake of the common faith?

But yet it would seem that apparently there was evidence sufficient for most, forthcoming at a recent meeting. The Chairman, who had worn spectacles for the past fifteen years, suddenly took them off, gave them to his wife, and his sight was forthwith restored by his faith in the Lord that he could do without them! There are two explanations, however, which may be given for this apparent cure. First, the nature of the ocular disease may have been such that, after a proper treatment with spectacles for fifteen years, they could now with comfort be dispensed with; or, secondly, that it was a mere imagination during the fifteen years that glasses were needed at all!

There is something well-nigh ludicrous in some of these cases, and were it not that it would be difficult to conceive human depravity so great as to wilfully mislead in such a matter (dealing, as it does, with one of the greatest supports of every Christian), one would almost be led to think that a new phase of Positivism is on the wing, and that the good old and sound faith, which we admired and revered in our God-fearing fathers, which served them so well, is about to be overshadowed by some new phenomenon.

## HEALTH ITEMS.

### TRUE DISINFECTANTS.

By DR. W. DOMETT STONE, F.R.C.S.

THE Imperial Board of Health of Berlin has published a number of experiments, says the *Medical and Surgical Reporter*, which have been made by Dr. P. Koch, with the view of establishing the real value of so-called disinfectants. Carbolic acid.—Most surgeons have been satisfied to wash their hands and clean their instruments with a two per cent. solution of carbolic acid. Such a solution is almost inert, and a five per cent. solution is necessary to achieve the desired object. But what is the most startling, is the fact



that *carbolic acid dissolved in oil or water proved itself totally inert*! Koch found that it had not the slightest influence on the vitality of any of the micrococci or bacilli. Sulphurous acid was found to be powerless against spores; bacilli and micrococci, when exposed to the fumes in a box, were killed within twenty minutes, but were very little influenced, or not at all, when exposed to the fumes in a room at the usual temperature. Chloride of zinc showed itself just as harmless. A five per cent. solution exerted absolutely no influence on the spores of splenic fever; notwithstanding the same had been exposed to the action of the remedy for a period of thirty days. The spores of the bacilli were killed by chlorine water, freshly prepared; two per cent. bromine water; one per cent. aqueous solution of corrosive sublimate; five per cent. solution of permanganate of potassium; one per cent. osmic acid, within one day; oil terebinth, five days; one per cent. arsenious acid, one per cent. water with muriatic acid, two per cent. muriatic acid, within ten days.

Inert, or possessing very little influence: distilled water, alcohol, glycerine, oil, sulphur-carbon, chloroform, benzol, petroleum ether, ammonia, concentrated solution of common salt, bromide and iodide of potassium, one per cent.; sulphuric acid, sulphate of zinc and copper, alum, one per cent.; boracic acid, five per cent.; acetic acid, five per cent.; tannic acid, five per cent.; benzoate of soda, five per cent.; quinine (two per cent. in water, 40; alcohol, 60), iodine (1 per cent. in alcohol), thymol (5 per cent. alcohol).

For the purpose of disinfection, the micro-organisms must be killed, and in the shortest possible period, and the effect of retarding the development of the spores (antiseptic) is not sufficient. The following remedies can, according to Koch's experiments, be said to be of value:—Corrosive sublimate, cholrine fumes, iodine; bromine in form of vapour is, as concerns rapidity of action, superior to chlorine and iodine.

WATER AMONG THE ANCIENTS.—Among the Romans, the care bestowed upon the provision of pure water—with which is connected the celebrated name of Frontinus, as "Curator Aquarum"—and their elaborate system of drainage, prove that they had correct ideas on some of the fundamental questions of hygiene. The more recent discoveries in the Campagna have still further shown that they were fully aware of the conditions which alone could make that now pestilential region habitable, as a system of subsoil-drainage has been revealed, that is a reproach to the ignorance and supineness of modern times. Another direction in which the Romans showed great knowledge of the principles of hygiene, was in the management of troops on the march and during war. The rules for encampments given by Vegetius are excellent; and, to the great care shown for every detail of sanitation, must be attributed the comparatively small loss which the armies of the Romans appear to have maintained. In taking a cursory retrospect of the old world in its medical aspects, I should be inclined to say that, on the whole, its medicine was as much preventive as curative. The motto of the time might have been "Venienti occurrere morbo." There was a dread and impatience of disease—so much so, that men were known to commit suicide out of fear of it; and the sentiment of pity for the weak and the oppressed appears to have been absent. Hence, perhaps, the curious fact, that we have no record of public hospitals for the sick poor during the classical periods, the earliest being as late as the reign of Justinian.

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### NO. XII.—THE HAIR AND ITS TROUBLES.

BY DR. ANDREW WILSON.

AMONGST the deformities of the human frame which cause much annoyance to their possessors, are those so-called "freaks of nature" in the shape of hair-growths in unusual places and in unsightly masses. The growth of hairs on "moles" on the face, for example, and the presence of hairs on the cheeks in situations where (especially in the case of the fair sex) their development distinctly offends the laws and canons of beauty, are causes of much mental annoyance, if only from their conspicuous nature. Occasionally, such localised hair-growths are traceable to some unusual stimulation of the skin. They have thus been known to follow the application of a blister, and they are also tolerably common as affects nervous disorders, or even after an attack of general ill-health. After paralysis of the muscles, excessive hair-growth has been known to occur. Sir James Paget had a case in which the patient's left arm and shoulder, which were paralysed, developed a thick covering of hair. In certain cases of mental disorder we see the same tendency to redundant hair-growth. Idiots, both male and female, frequently develop a copious face-growth, and such an event only demonstrates anew the close and intimate relationship which exists between the hair and the nervous system.

One of the most remarkable cases of excessive hair-growth which has yet been reported, is given by Dr. Leonard. The case is that of Edwin Smith, of Fairfield, Michigan. At forty-five years of age his beard measured seven feet in length. A portrait of this man shows him in the erect posture, with his beard hanging on the ground. The longest hairs measured seven feet six and a-half inches in length. The beard has grown to these extraordinary dimensions in twelve years. When he was fourteen years of age he had a heavy beard-growth, which measured six inches in length. This beard was shaven, and when he attained maturity he kept his beard about six inches long. Curiosity impelling him to allow it to grow, the result was seen in the enormous beard already mentioned.

The treatment of cases in which a growth of hair becomes localised and unsightly, is a somewhat delicate and difficult matter. It is as well, at the outset, to state plainly that many of the so-called "depilatories," or hair-removers, are ineffectual; whilst, if they do remove the superfluous hairs, they cannot affect the *papillæ* from which the hairs spring, and hence the use of these depilatories is followed by temporary relief only. Again, in the employment of depilatories, *great care should invariably be exercised*. The use of these substances, even the most harmless, is apt to affect the skin. Accordingly, the directions for the use of these substances should, in all cases, be attended to with strictness. In no case should they be used unless their employment is imperatively demanded.

For the removal of hair generally, a lotion composed of equal parts of liquor potassæ and alcohol may be brushed over the surface at night, and removed in the morning by aid of a tepid bath, with plenty of soap. Used carefully, this lotion does not appear to injure the skin. Of course, it does not touch the hair bulbs, so that a fresh growth of hair will sooner or later take place. Boudet's formula for a



depilatory consists of sulphate of soda three drachms, quicklime ten drachms, and starch ten drachms. These ingredients are to be placed, mixed, in a stoppered bottle. A little water should be added to a portion of the powder so as to make a paste, and this is to be applied with a wooden spatula over the part. After being allowed to remain for five or ten minutes, or until the skin begins to smart, it is to be scraped off and the part washed with warm water, after which some powder may be dusted over the affected spot. Another depilatory is composed of quicklime two drachms, carbonate of soda three drachms, and simple ointment two ounces. Apply as in the case of the preceding depilatory. The depilatories sold in the shops frequently contain arsenic, but the use of this corrosive substance is highly objectionable.

By means of an electrical apparatus, hairs can now be removed in a satisfactory fashion, more especially as in this procedure the roots of the hairs are destroyed. The hair is partially withdrawn from its follicle, and a needle connected with the battery is thrust into the follicle, and allowed to remain for a second or two. In this way, the hair-papilla is destroyed; and as many as 160 hairs have been successfully treated in this way in about half-an-hour. A simpler method, in which electricity is dispensed with, is that of forcing a special needle into the hair-follicle, and of breaking down the growing point of the hair. A little inflammation naturally succeeds such an operation. Chloride of zinc solution (a cauterising fluid), of the strength of two drachms to three drachms of water, has been injected into the hair follicles with a fine syringe, one drop being placed in each sac. Lunar caustic (nitrate of silver) has also been employed as a depilatory, being used on the point of a needle, which is thrust down into the sacs of the hairs.

A topic which certainly verges on the needless and the frivolous, but which must yet be treated in the present series of papers, is that of the alteration of the colour of the hair by dyes. There are few considerations entitled to any weight whatever, from a scientific, social, or æsthetic point of view, which can be said to justify the practice of altering of the natural hue of the hair. What fashion decrees, it is, however, only too certain, crowds will follow, leaving all considerations of health and well-being out in the cold. But the topic has at least its health-aspect. We have to warn those who indulge in such practices, of the probable evils which await their playing fast and loose with hair dyes and cosmetics. These, as often as not, contain substances eminently injurious both to skin, hair, and to the general health. But to this important social subject we must devote a special chapter.

**COUNTRY LIFE.**—I cannot complain, says Dr. Ransome, of the movement outwards into the country. It is a course by which I believe that an important part of the English race is being saved from destruction. But why should not the advantages of a residence in the pure air of the country be extended to our poorer brethren? If facilities could be offered to working men to take their families also to the outskirts of the town, I believe that the dangers from proximity might be materially reduced. Workmen's trains, workmen's trams, cheap but healthy houses in the suburbs, each with its bit of garden—these are the agents that would do more to improve the health of the population, to keep the children from sickness, and to promote the social welfare and happiness of the labouring classes, than any attempts to ameliorate their condition as residents of towns. Room would then be left for open spaces, gardens, and playgrounds in the residential parts of the town itself, and many of the evils we have mentioned would be averted.

## CIGARETTE SMOKING.

THIS topic is one of vast interest to large numbers of persons. Hence we esteem it serviceable to aid the diffusion of facts and opinions regarding this practice, by the republication of the following interesting remarks and correspondence from the *Lancet*. There can be no question that the practice of cigarette smoking is, in many respects unsafe; and it is well that the public should be placed on their guard against the evil effects likely to accrue from persistence in this habit. "Some months ago we took occasion to offer a few remarks on the practice of cigarette smoking. It was not with any desire to indulge in a tirade against tobacco, and what is called 'nicotine poisoning,' we then discussed the subject in these columns. Our observations were misunderstood in some, misrepresented in other, and sharply criticised in many quarters. It was urged, in rejoinder to our allegations, that medical men not infrequently themselves smoke, and like other smokers, use cigarettes. Our warning was against the too habitual, and daily increasing, practice of keeping cigarettes in the mouth almost continuously. If cigarettes were smoked by the young men of England as they are by most foreigners, no harm would probably result. In other countries the little roll of tobacco is held loosely between the fingers and applied daintily to the lips, a mere puff of the smoke being inhaled and as quickly blown away. The prosaic Englishman places his cigarette firmly between his lips and leaves it there, sucking in and retaining the smoke, thereby poisoning the saliva, and, which is worse, giving the smoke time to deposit its oily particles in the lining membranes of the mouth, the throat, and the air passages generally. It is directly demonstrable by experiments that tobacco smoke will throw down nicotine with extraordinary rapidity, and the proportion deposited by the smoke of finely-cut leaves burnt quickly, as the tobacco in a cigarette is burnt, is greater than that thrown down by the smoke of a cigar or a pipe. In cigarette smoking the tobacco leaf is reduced to very fine shreds, and it is consumed with great celerity. The smoke passes directly into the mouth, unless a mouth-piece is used, and whatever nicotine there may be to affect the organism of the smoker is taken up with especial avidity. As regards the influence of cigarette smoking on the pulse, this is in many cases, undoubtedly, strongly marked. The sphygmograph gives tracings which are characteristic of the depression produced by tobacco on the vaso-motor centre and nerves—that is to say, the apparatus by which the calibre of the smaller bloodvessels is regulated, and the pulsating current of the blood normally converted into a continuous flow of the nourishing fluid—and these tracings are more characteristic in the case of the habitual smoker of cigarettes than in that of the smoker of cigars or a pipe. This fact has fallen repeatedly under observation. Another feature of the case against cigarette smoking is the relatively greater dryness of the mouth and throat, and therefore desire for a 'brandy-and-soda' or some other stimulating beverage which attends the smoking of cigarettes, than that which is caused by other modes of indulgence in tobacco. We neither share the fashionable belief that alcoholic drinks are injurious when taken in strict moderation, nor do we for a moment think a moderate use of tobacco is to be deprecated, except in special cases; on the contrary, we are convinced that for the relief of many mind and nerve troubles, and for the reduction of needless and mischievous excitement in the brain and other nerve-centres, tobacco smoking is often useful. But, at the same time, we are persuaded



that a protest against the habitual smoking of cigarettes is needed, and we think it timely to repeat this protest at what seems to be the commencement of warm summer weather; for it is undoubtedly when the atmosphere is heated and the pulse is liable to be quickened by the slightest nervous excitement or muscular exercise, those who smoke find the genial influence of small doses of tobacco both soothing and recuperative."

In reference to the above remarks, Sir Henry Thompson contributes the following remarks on cigarette smoking:—"I think I might, if permitted, offer you a practical hint of some value in connection with cigarette smoking, which, I think, is not altogether appreciated by the author of your notes on the subject. First, the cigarette, without a mouthpiece, is really never smoked more than half-way through in the East, where cigarettes are very cheap. It is well understood there, as it is by all practised cigarette smokers, that every inhalation from a cigarette slightly deteriorates in quality from the first. A small deposit of the very offensive oil of tobacco is deposited in the finely-cut leaf, which acts as a strainer, and intercepts the deposit as it passes. Very little of this arrives in the smoker's mouth if he stops when half is consumed. I have seen many Oriental smokers who consume no more than a third. Turkish ladies, for example, as I have had personal opportunities for observing at Constantinople, will smoke fifty or upwards in a day, but, I need scarcely say, only in the manner I have described.

"Secondly, if a cigarette with a card mouthpiece is employed, the noxious matter may be intercepted by always introducing a light plug of cotton wool into the tube. If now the cigarette is nearly consumed, a considerable quantity of brown and very offensive matter will be found in the cotton wool, from the evil of which the smoker is thus preserved.

"Thirdly. Some years ago I designed a cigarette-holder or mouthpiece, which opened transversely in the middle, disclosing a small cavity, which is filled with cotton wool. It would surprise many people, perhaps, to find that the result of smoking six cigarettes only in this tube is that this plug is saturated with a brown fluid like treacle, of powerfully offensive odour, and disagreeable almost beyond belief. The wool then requires to be changed, and in this manner the evil of smoking is very greatly diminished. Several of these were constructed by a well-known tobacconist close to your office in the Strand.

"Lastly. The maximum of pernicious influence which occurs through cigarette smoking is attained by the practice of inhaling the smoke largely direct into the lungs, where it comes into immediate contact with the circulation, and the toxic effect is so strongly perceptible after three or four consecutive inhalations, and so felt by a sensitive person to the very tips of the fingers. I have no doubt that the effect would in most cases be notably recorded by the sphygmograph. Such smoking is, of course, or ought to be, exceptional. All the fragrance, with a little only of the toxic effect, is obtained by admission of the smoke into the mouth only, still more by passing it through the passages of the pharynx and nose; but it is the pulmonary inhalation referred to, often associated with cigarette smoking, and rarely with the pipe, which constitutes the chief mischief of the cigarette. I may say, in passing, that that well-known Oriental method of smoking, practised by means of the narghileh, in which the smoke, although drawn through water, passes invariably through the lungs, explains the powerful effects which sometimes unpleasantly surprise novices in its use.

"Smoked, then, simply, and with cotton wool interposed, I do not hesitate to regard the cigarette as the least potent,

and therefore the least injurious, form of tobacco smoking. Without this precaution it may be made, although not necessarily, the most ready means of conveying the active principle of tobacco, by means of smoke, into the system."

"C. E. D." writes as follows:—"In your article you infer that smoking cigarettes in the foreign way does less harm than the English mode, because in the latter case the smoke is retained longer in the mouth. Now I have lived for several years abroad, and I know that the French, Italians, Spaniards, Germans, and I have heard also that the Russians, 'inhale' the smoke from the cigarette—that is, they swallow it, so that the smoker, after drawing down a whiff of smoke, can, if he chooses, speak, or even drink a glass of beer, and after that bring the smoke up again and eject it. This is their usual way of smoking cigarettes, but in London ten years ago, so far as I could see, 'inhaling' was not much known, but I notice that the numbers here who now adopt it are increasing every year, and they, after having acquired the habit, will tell you that this is the only way they care to smoke a cigarette. But if the mere retention in the mouth of the smoke is so bad, how much more must it be so in the case of the foreigner who always 'inhales' or swallows the smoke? And yet it is held in your article that the foreign way of smoking is the least injurious.

"I do not know whether the attention of the medical profession has been drawn to the subject of 'inhaling,' but if it has, I and many other outsiders with whom I have conversed on the subject would be glad to know their opinion, whether inhaling is much more injurious than ordinary smoking, and what are its effects; and I think that it would be very useful to the public to have their views, as the practice of inhaling seems to be spreading rapidly."

"Major" also sends the following remarks:—"I have read with interest your article in this day's *Lancet*, but I cannot reconcile the statements therein made with my experience. I am not writing controversially, but seeking to benefit by your professional knowledge. I am a great cigarette smoker, and keep one in my mouth almost continually from after breakfast until I extinguish my bedroom candle at night. The only ill-effect I experience, if this is caused by cigarette smoking, is that on waking in the morning, I am apparently suffering from bronchitis—at least, what I call bronchitis—and it takes me a good half to three-quarters of an hour of violent coughing to get right. The rest of the day all goes smoothly. I have neither nausea nor want of appetite, and I fancy few men drink as little of any liquid as I do. I take no spirits, and my usual drink is a very mild table ale. But if I smoke two cigars consecutively, or three in the twenty-four hours, I am quite upset—a bad taste in my mouth on waking, no inclination for food, and ever-recurring giddiness, palpitations, &c. Furthermore, one pipe of bird's-eye tobacco, without any other smoking whatever, finishes me off without any delay. May I inquire if the 'bronchitis' may be attributed to the cigarettes?"

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INSANITY IN THE UNITED STATES.—The tenth American census gives some interesting facts relative to the increase of insanity in the United States. The total number of insane in 1870 was estimated at 37,432, as against 91,997 in 1880,—an apparent increase of over 100 per cent. This gives a ratio of one insane person to every 543 of the population.



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. XI.—THE SKULL.

BY A. J. MANSON.

THE bony framework of the head, *cranium*, or *skull*, presents us with a highly complex piece of anatomy. In lower animals, the skull may be far more complex in structure than in man. That of the cod, for example, and of most other bony fishes, is an extremely intricate piece of animal mechanism. Its bones are far more numerous than those of the human skull, and parts that are plainly developed as skull-elements in the fish, may be either wanting altogether in the skulls of higher life, or may be united to other parts to form a single bone. Thus the hinder bone of man's head—the *occipital bone* (see Fig.)—may be represented in lower life by several bony pieces, which may be recognised wholly, or in greater part, in the single bone of the human head.

Looking at the skull generally, we find it to be readily divisible into two chief parts. These are (1) the *cranium*, or *brain-case*, and (2) the *face*. Into the composition of the human skull *twenty-two* bones enter. Of these, fourteen go to form the face, whilst eight are included in the cranium. The only bone which is separate and detachable from the skull is the lower jaw (see Fig.), *mandible*, or *inferior maxillary bone*, as it is named in anatomical language. All the remaining bones are more or less firmly welded together, and form the dense, solid structure which the skull is known to be.

Taking the *eight* bones of the *cranium*, or *brain-case*, first in order, we may tabulate them as follows:—

- (1) The Occipital Bone.
- (2) } The two Parietal Bones.
- (3) }
- (4) } The two Temporal Bones.
- (5) }
- (6) The Sphenoid Bone.
- (7) The Frontal Bone.
- (8) The Ethmoid Bone.

The *occipital bone*, as already mentioned, is the hinder bone of the head (see Fig.). Originally, and in early life, this bone consists of four pieces, representing distinct bones in lower life. Below and behind, it shows a large opening (the *foramen magnum*) through which the spinal cord or spinal marrow and the brain become continuous. It is this bone which fits upon the *atlas*, or first neck-vertebra, and we see on the bone, at the sides of the large aperture just mentioned, two prominent rounded processes, called *condyles*, that rest in the cups of the atlas.

The two *parietal bones* (see Fig.), meeting in union along the roof of the skull, form the greater part of the sides of the cranial roof. Each parietal bone is somewhat square in shape, and the bone of each side joins its neighbour bone, the occipital behind, the frontal in front, and the temporal below. It also joins the sphenoid bone (see Fig.).

The two *temporal bones* come next in order. We recognise these bones most readily (see Fig.) from the fact that they contain the ear, and show each the opening of that organ. They form part of the side and floor, or base, of the skull. The "temples" of the head are formed by parts

of these bones, and by the thin, plate-like portions that run forwards towards the forehead. A curious bar or ridge of bone (shown in the figure), juts out from each temporal bone, and runs forward to join the *malar*, or cheek-bone, and thus forms an arch known as the *zygomatic* or cheek-arch. Below this arch, on each side, is a hollow (the *glenoid cavity*), in which the lower jaw works. The ear is contained within that part of the temporal bone known as the *mastoid* portion, and which is felt as the hard, dense portion behind the ear. A little sharp process of bone, called the *styloid* process, is also seen in the illustration projecting downwards in front of the mastoid portion.

The *sphenoid bone* is the most complex bone of the skull. It is a wedge-shaped bone (hence the name "sphenoid"), lying in the floor or base of the skull, and having, therefore, the brain above it. It seems to form a kind of key-stone in the skull, with many of the bones of which it articulates, and part of the sphenoid bone enters, as shown in the figure, into the formation of the outer part of the eye-cavity, or *orbit*.



The Adult Skull.

The *frontal bone*, or that of the forehead, is easily recognised. In front it is convex or rounded, and forms the upper halves of the eye-cavities. The ridges, called *superciliary ridges*, correspond with the position of the eyebrows. In some lower races of men, as, for example, in the Australians, these ridges are very prominently developed. In the fossil Neanderthal skull they are of immense size; and in the so-called man-like apes (e.g., gorilla) they are also relatively large. Within the substance of the frontal bone in front, we find *air-sinuses*, or spaces, between the two layers of which the bone consists. These spaces are enormously developed in such animals as the elephants, the lessening of solid matter in the skull thus tending to reduce the weight of the head.

The *ethmoid bone* is the last of the eight which form the cranium proper. It is so named from its sieve-like appearance, and lies in front of the sphenoid bone. It forms part of the floor of the skull in front, and is closely related to the nerves of smell, and to those parts of the brain from which the nerves of smell are given off.

The *face-bones* we propose to consider in another paper. Meanwhile, we may direct attention to the interesting fashion in which the bones of the cranium are joined together. A reference to the illustration will show that the bones are "dovetailed" together, the lines of union being called *sutures*, and the projections of one bone fitting into the hollows or notches of its neighbours. By this means, great firmness and strength are insured, and pro-



vision is also made for the growth and increase of the bones in early life. In its general shape the skull is oval or ovoid. The average length of the British skull is set down at a little over 7 in., whilst the average breadth is  $5\frac{1}{2}$  in., and the height from the level of the opening in the occipital bone to the top of the skull, about  $5\frac{1}{4}$  in. The greatest circumference is about 21 in. The brain-cavity has an average cubic capacity of 92 in. If we represent the long measurement in diameter of the skull, from back to front by 100, we find that in human skulls the cross diameter varies from 98 or 99 down to 62. The races in which the long and cross diameters are proportionate, are named *dolichocephalic*, or "long-headed." Those skulls in which the proportion of length to breadth is low, are named *brachycephalic*, or "short-headed." Again, in the higher races of man, the face-bones do not project forward from below the brain. Hence skulls of the ordinary type, in which the brain seems to come well forward over the face, are named *orthognathous*, or "straight-jawed." When, as in lower races, the facial bones seem to shoot forward, the skull is said to be *prognathous*, or "forward-jawed." In the lower animals the latter condition is invariably seen, and it is also witnessed in lower races of men. A dog's brain, or that of a chimpanzee, seems to lie back from the face; whereas in human life, and in the higher races of mankind especially, the brain does not retreat and the face-bones are not of specially-projecting contour.

**HEAVY BRAINS.**—It may be noted that the average weight, according to Professor Turner, of the adult European male brain is 49 to 50 oz., that of the female being about 5 oz. less. Here follows a list of brains considerably above the average:—

	Age.	Oz.
Cuvier, Naturalist .....	(63)	64.5
Abercrombie, Physician .....	(64)	63
Goodsir, Anatomist .....	(53)	57.5
Spurzheim, Physician .....	(56)	55.06
J. Y. Simpson, Physician .....	(59)	54
De Morny, Statesman .....	(50)	53.6
Daniel Webster, Statesman .....	(70)	53.5
Campbell, Lord Chancellor .....	(80)	53.5
Agassiz, Naturalist .....	(66)	53.4
Chalmers, Theologian and Preacher ...	(67)	53
Fuchs, Physiologist .....	(52)	52.9
Gauss, Mathematician .....	(78)	52.6
Jeffrey, Judge and Critic .....	(76)	51.8
Babbage, Mathematician .....	(79)	49.5

The ages are mentioned because, in the case of old men in the list, some allowance must be made for senile atrophy. In Lord Jeffrey's case, moreover, the cerebellum, which weighed  $6\frac{7}{8}$  oz., was not included in the 51.8.

THE recognition of foul air as a factor in disease was certainly begun in the last century. The great disaster of the Black Hole of Calcutta, and the terrible effects of the gaol fever investigated by Howard and others, pointed to foul air as a main factor in the propagation of disease and death. It was reserved for the later researches of Neill Arnott and other hygienic observers of the present century, to prove that foul air is the main cause of the still more general and fatal class of destructive lung diseases, which, in this and in other lands, cuts off so many of the brightest and the best. Another important discovery of the last century was the determination of the cause of lead colic by Sir George Baker. This opened up the large field of metallic poisoning, which has received so much elucidation, and proved of such importance in reference to the water supply of large communities.

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health  
Resorts, Home and Foreign.*

BY A PHYSICIAN.

#### V.—HEALTH RESORTS DESCRIBED.

**BOGNOR**, a town of Sussex, distant sixty-six miles from London. The population numbers about 3,000. The chief climatic character of Bognor is its mildness. Many cases of nervous disorder benefit from a stay here, and lung complaints are also favoured by the climate. Cases of rheumatism also improve amidst the air and surroundings of this place. There is a long pier, and the beach is a stretch of sand. Hotels: Norfolk, Sussex, Bedford, Claremont, and Victoria. Bognor is reached from London by London, Brighton, and South Coast Railway. Tourist fares: Return, 21s. 6d., 15s. 6d., 10s. 4d.; Saturday to Monday tickets, 17s., 12s., 8s.

**BOURNEMOUTH**, in Hampshire, 115 miles from London, is reached by the L. and S.-W. Railway in about four hours. The town lies near the centre of Poole Bay, which extends from Hengisbury Head to Handfast Point. From the W. extremity of the Isle of Wight, Bournemouth is about ten miles distant. The beach is sandy, intermingled with shingle, but excellent bathing is obtained. The town is imbedded in the cliffs, which shelter it and give to the locality its particular health-phases. The valley part of Bournemouth is warm and mild, whilst the cliffs are airy and bracing; hence, alternations of temperature are available during residence here. The river Bourne traverses the valley, and pleasant gardens fringe its course. To the N. and N.E. the town is well protected by its hills; S.W. gales, however, affect it forcibly. On an average, there are 156 wet days per annum; but as the soil is very dry, the occurrence of rain does not debar invalids and others from walking after the showers. The mean annual temperature is  $51^{\circ}$ ; winter,  $42^{\circ}$ ; spring,  $49^{\circ}$ ; autumn,  $51^{\circ}$ ; and summer,  $60^{\circ}$ . The climate is mild, but not too relaxing. In winter, the snow rarely lies, and the vegetation remains green and persistent. In spring, the frequent clouds of dry dust are disagreeable. Bournemouth is chiefly famed as an agreeable winter resort, much frequented by invalids from tropical countries. For others, who are not liable to be affected by changes in temperature, and for those who suffer from general debility and consumption of mild type, residence is eminently useful. Dysentery, of tropical origin, is benefited by a stay here. Hotels: Royal, Bath, Belle-Vue, Havelock House, Exeter Park, Newlyn's Family, Lansdowne, Pembroke, &c. Bourne Hall, Bournemouth, is a favourite residence for visitors. It is under the superintendence of Dr. Philpots, the proprietor, and as a sanatorium, or pleasant residence, enjoys a long and deserved popularity among Bournemouth visitors. The inclusive terms for residence are three and four guineas per week, and all extras are included, whilst no charge is made for professional attendance if required. Fares, by the London and South-Western Railway, from London: Tourist return, available for one month, 37s. 6d., 26s. 6d., 16s. Saturday to Monday returns, 28s. 6d., 21s. 6d.



BRAY, in Dublin and Wicklow, is twelve miles southwards from the Irish capital. It lies somewhat inland from St. George's Channel. The air here is specially suited to chest complaints. Hotels: Bray Head, Royal, Powerscourt Arms at Enniskerry.

BRIDGE OF ALLAN, in Stirlingshire, 422 miles from London (London and North-Western Railway direct, or Midland, or Great Northern Railway *via* Edinburgh); distant from Edinburgh forty miles, and a suburb of Stirling, with which a tramway line connects it. Climate, dry and salubrious; air bracing; much frequented for chest complaints and for all cases of debility, gout, &c. Mineral waters exist at Airthrey springs. Hotels: Royal, Queen's. A large Hydropathic establishment is situated here. Fares to Stirling from London: Return tourist, 11s. 3d., 8s. 10d., 5s. 6d.

BRIDGE OF EARN, a village of Perthshire, reached *via* Perth (four miles distant) from London, or from Edinburgh *via* Fife. The Pitcaithly mineral waters are situated near this place. Kidney and liver affections benefit from a stay here.

BRIDLINGTON QUAY, 245 miles from London, on the shores of Bridlington Bay. Route *via* Great Northern Railway from London, and by Midland Railway. From Scarborough it is 22 miles distant. Population about 8,000. Beach, sandy for the most part. Air bracing, and well adapted for all diseases requiring a tonic atmosphere. Recovery from fevers, wasting disease, &c., is promoted by the bracing air. Hotels: Alexandra, Britannia, Black Lion, Crown, &c. Fares: Tourist returns, 58s. 2d., 44s. 5d., 31s.

BRIDPORT, in Dorset, 154 miles from London. Climate bracing. Hotels: Bull, Greyhound, Bridport Arms, &c. Population about 9,000. Fares per Great Western Railway or London and North-Western Railway from London, return, 45s., 35s., 26s. 4d.

BRIGHTLINGSEA, in Essex, reached by Great Eastern Railway; 63 miles from London. Air mild, and well suited for lung and rheumatic affections. Population about 5,000. Hotel: Swan. Fares from London, monthly returns, 17s. 11d., 14s. 4d., 11s. 8d.

BRIGHTON, or "London-super-Mare," as it may well be termed, is situated fifty-two miles from the metropolis. The health aspects of this famous town are chiefly in its pleasant autumnal and early winter days, as well adapted for invalids. The cold north and easterly winds of spring are trying even to the healthy. The mean annual temperature is 50°, and the rainfall about 25 inches, whilst about 160 days per annum are wet. Those who are likely to benefit from Brighton air and climate are invalids suffering from nervous diseases, hypochondriacal patients, and those who are debilitated by foreign residence. Kidney disorders and cases of anæmia, or bloodlessness, also improve here. The climate does not suit skin diseases nor asthma; whilst persons suffering from inflammatory complaints are not to be recommended to reside at Brighton. Children of a scrofulous habit, or those recovering from fevers, find the Brighton air beneficial. The West Cliff is milder than the East Cliff. Beach shingly. Hotels very numerous:—Grand, Bedford, Queen's, Old Ship, New Ship, Albemarle, Gloucester, Markwell's, Burlington, Sussex, Haxell's, &c.

BRIXHAM, Devon, faces Torquay, and is distant from London 225 miles. Population about 4,000. The season here extends from October to April. Like Torquay, Brixham suits consumptives and others affected with lung-complaints, whilst it is also adapted for cases of heart-disease requiring rest, and for rheumatism. Hotels: Queen's, Bolton's, and Platel's. Reached by Great

Western Railway and London and South-Western Railway from London. Fares, return: 67s., 47s. 8d.

BROADSTAIRS, Kent, 77 miles from London, lies between Ramsgate and Margate. Population about 2,000. The air is light and very bracing. Convalescents from fever, and those whose system requires toning, benefit greatly from the fresh and strong sea-breezes. The town stands high. Margate is three miles and Ramsgate two miles distant. Beach sandy. Hotel: Albion. Reached by London, Chatham, and Dover Railway from London. Fares, return, 22s. 6d., 16s., 10s.; available 8 days.

BUDE, a small town in Cornwall, 240 miles from London, reached by Great Western Railway to Barnstaple, thence by coach (30 miles). Air very bracing and pure, adapted for convalescents, but unsuitable for chest complaints. Hotels: Bude, Falcon.

BUDLEIGH SALTERN, in Devonshire, 187 miles from London. Population, about 5,000. Town faces the sea. Reached by Great Western Railway or London and South-Western Railway to Exmouth, thence by omnibus (five miles). Climate mild; well adapted for wintering for who are not those liable to ailments from changes of temperature. Cases of general debility, without actual disease, benefit from a stay here. Hotel: Rolle Arms.

BUILTH, in Brecon, is placed on the Wey, 185 miles from London, by Great Western Railway or London and North-Western Railway. About eight hours' journey from London *via* the former line. A bracing inland air. Hotel: Lion. Return fares: 54s. 2d., 41s. 3d.

BURNHAM, Somerset, lies on the Bristol Channel, 146 miles from London, whence it is reached by the London and South-Western or Great Western Railway. The summer season here is dry and bracing, well adapted for convalescents from ordinary fevers, &c.; but somewhat dry for lung affections. Beach sandy, 7 miles long. Hotel: Royal Clarence. Return fares: 45s. 9d., 34s.

BUXTON, Derbyshire, a famous health-resort, noted for its mineral waters. From London Buxton is reached by the Midland Railway, and by the London and North-Western Railway. It is 163 miles distant from London, and 31 miles from Derby. Buxton stands 900 ft. above sea-level. The temperature here varies greatly, but the ground dries rapidly. About 213 days per annum are wet. The mean temperature per annum is 45°, summer maximum 88°, and winter minimum 10°. The season here is a summer one, from June to October. The climate is adapted for all who require a bracing air, but must be avoided by all who are subject to internal hæmorrhages or bleedings—*e.g.*, from the lungs. The waters have a temperature of 82° Fahr. They are clear, have no smell or taste, and are not sparkling. They do good in gout and rheumatism, and in other joint-troubles, whilst they stimulate the heart and digestive systems. Hotels: Palace, St. Ann's, Crescent, Grove, Royal, Lee Wood, Shakespeare, Midland, &c. Fares from London (*through carriages* by Midland Railway): tourist returns, 1st, 43s. 4d.; 3rd, 24s.

MOSQUITOES IN LONDON.—It is stated that, during the warm weather of the past weeks, a number of persons in the north of London have been bitten by mosquitoes. Women and children have especially suffered, some having been almost blinded through the swellings caused by the bites of these foreign insects. It is said that large numbers of mosquitoes were brought over from America among the corn, and that they have been frequently seen to fly up when the grain is being transferred for grinding to a large steam flour-mill in the vicinity.



## Our Bookshelf

"Reading maketh a full man."—*Bacon*.

*Lectures on the Parasitic Diseases of the Skin, Vegetoid and Animal.* By JAMES STARTIN, Surgeon and Joint Lecturer to St. John's Hospital for Diseases of the Skin. (London: H. K. Lewis).

THE improvement of the microscope, and its application to the detection of the minute causes of disease in animals and plants, has probably advanced medical science to an extent of which those outside the ranks of the profession can hardly form an adequate opinion. An illustration of the value of research into the nature of the minute enemies that disturb human life and comfort is afforded by the volume now before us. Mr. Startin, in this interesting book, reviews in plain and non-technical terms the chief details connected with the production of skin diseases by parasites of animal and vegetable nature. A "parasite," as most people know, is an animal or plant which lives in or upon another living being. There are various degrees of perfection seen in the development of the parasitic habit. For example, some "parasites" merely lodge, so to speak, with their hosts; others both lodge and board with other living beings; and some, by the mere fact of their habitation upon another living being, cause disease, or even the death of the latter. Amongst the disease-producing parasites are a whole series which locate themselves in or upon the skin of man or other animals. The effects of such a form of residence are seen in the symptoms of disease which appear as the clear result of the presence of these intruders.

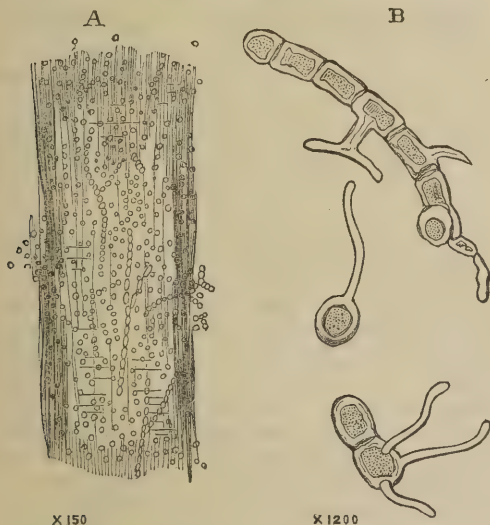


Fig. 1.—A Hair in Ringworm and its Parasitic Plants (both magnified).

How these parasites are conveyed to the skin appears clear enough from Mr. Startin's words: "These fungus germs, floating and carried about in the air near to their site of origin, soon settle themselves on the human skin surface, with its numerous orifices and fissures, and amongst the hair-roots and cavities." Through the direct contact thus described, the process of infection in such diseases is readily understood. But Mr. Startin points out the high importance of general bodily conditions in favouring such disease. "I believe," says the author, "their growth and development may be considerably

augmented by the nature of the soil upon which they settle, and this so often happens to be the case with ill-nourished children, with their sensitive organisms, collected together in schools under evil hygienic conditions, consequently all the more ready to take up these diseases." In a word, the preservation of sound general health is the surest method of preventing these and many allied diseases.

Of the parasitic diseases of skin and hair, none are more common than ringworm, and baldness due to the growth of lower plant-life within the hair-substance. Common ringworm of the head, seen well-nigh exclusively in children, is caused by the growth of a minute parasitic plant, the *Trichophyton tonsurans*. In Fig. 1 (taken from Mr. Startin's book, along with the other illustrations we here reproduce) is shown a portion of a hair from the head of a child affected with ringworm. The parasites burrow in the hair-substance, as shown in the illustration. The parasite itself and its "spores," or germs, may be seen within the hair in Fig. 1, A, whilst these plants are shown still more largely magnified in Fig. 1, B. The "fairy rings"



X 200

Fig. 2.—A Hair showing its Parasitic Plants (largely magnified).

in this disease may vary from half-an-inch to four inches in diameter. In the cure, Mr. Startin insists on the value of isolation of the patient, the disinfection of all articles likely to convey the spores or germs to healthy skins, and the disinfection by means of sulphur of the rooms inhabited by patients. Local applications of sulphurous acid washes are found to be of service. In Fig. 2 an illustration is given of a hair affected with another parasitic fungus—the *Microsporon Audonini*—which causes parasitic and partial baldness of the scalp. It may also attack the eyebrows and beard. The average length of the plant is the  $\frac{1}{200000}$ th of an inch.

Equally interesting, however, are the *animal* parasites which affect the skin. Most notable amongst these is the Itch Mite (not an insect, but a true mite), or *Sarcoptes scabiei* of naturalists. The monks of Bingen apparently knew of this parasite as early as the twelfth century, and it was also known to the Arabian physicians. The male itch mite is shown in Fig. 3, and also the female in her burrow in the skin with her eggs. The male is smaller than the female. In the cut it is represented drawn from the under surface. There are eight legs, as in all the mites; but it is the female mite alone which burrows in the skin. There she lays from fifteen to twenty eggs, "carefully depositing them in grooves and furrows." The eggs are



hatched in about ten days, the burrow in which they are laid being about  $\frac{1}{5}$ th of an inch in diameter. The female mite measures from  $\frac{1}{7}$  to  $1\frac{1}{4}$  lines in length. The intense irritation of the skin in "itch" can readily be understood by a reference to the habits of these mites; whilst contact

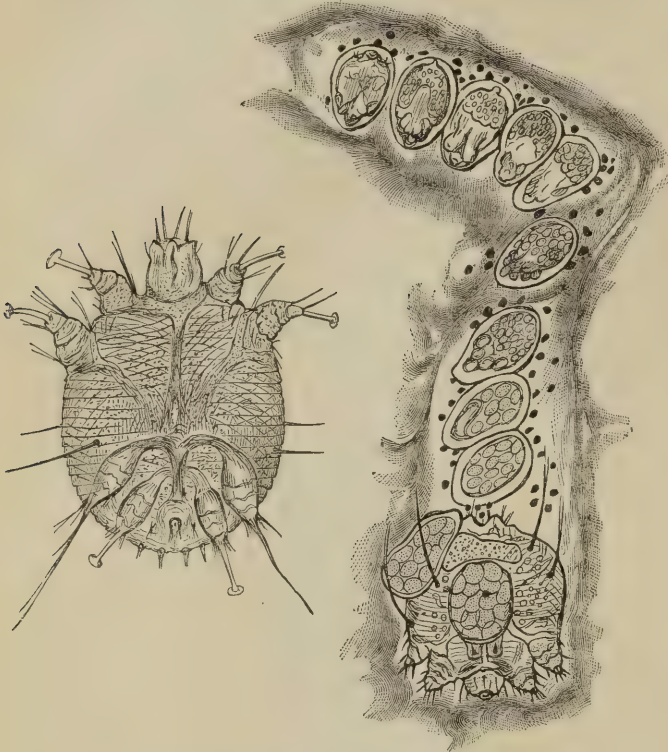


Fig. 3.—The Male Itch Mite and the Female Mite. (The latter is represented burrowing in the skin, and depositing her eggs therein.)

with the affected subject is the sure means of propagating the disease. Sulphur, as is commonly known, is the specific for these parasitic attacks.

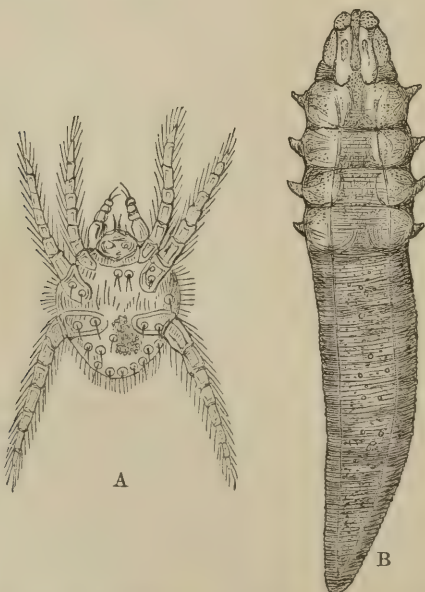


Fig. 4.—The Harvest Bug (A), and the Demodex (B).

Amongst the other intruders on the human domain is the curious little Harvest Bug (*Leptus autumnalis*)

(Fig. 4 A), which causes intense irritation by its bites, generally on the legs, during the autumn season. This is another of the mite, or spider tribe. A lotion of spirits of chloroform, camphor, and two grains of bichloride of mercury is recommended by Mr. Startin as a cure for these pests. The little *Demodex folliculorum* (Fig. 4 B) inhabits the sebaceous follicles of the skin, and is often found amongst the matter which is found in the familiar principles of *acne*—that most common of face eruptions. It is very doubtful, indeed, if this little mite (in length from the  $\frac{1}{5}$ th to the  $\frac{1}{14}$ th of an inch) exerts any harmful influence at all upon the skin. It rather appears to be a tenant-at-will of the follicles of the skin, dwelling therein, but certainly, as a rule, causing no eruption or other ill-effects.

We have seldom perused a book containing so many interesting and useful details as this manual. Mr. Startin contrives to impart a large amount of useful information regarding skin-troubles, and such as everyone should possess. The book, moreover, deals with a most interesting part of scientific history, apart from its medical aspects. We cordially commend it to the student of biology, as well as to the every-day reader.

*The Local Board, Bromley (Kent).—Regulations for Sewage, House Connections, &c.*

THESE regulations are excellent, and adapted to prevent disease and annoyance. They include the results of the most recent sanitary experience. Houses constructed with a drainage system approved by these regulations, and with house-connections to sewers constructed as here advised, cannot but be model dwellings in a sanitary sense.

## Our Exhibition Reports.

"There is an education for us all in the sight of the ways and works of others."—*Anon.*

### THE NATIONAL HEALTH SOCIETY'S EXHIBITION.

#### III.

CLASS II.—FOOD PRODUCTS.—This class includes whole meal, aerated, and other breads, cereals in various styles of preparation, extracts of meat, temperance drinks, &c. The well-known Aylesbury Dairy Company, 31, St. Petersburg-place, Bayswater (Stand No. 1), were among the chief exhibitors of this class. The preparations of this Company—including Koumiss, or fermented cow's milk, condensed mare's milk, artificial human milk, and peptonised milk—are too well known for it to be necessary to dwell upon them here; and the Company has for a long time past carried out a system of careful medical inspection of all its sources of supply, which, if it were universally adopted, would be instrumental in preventing an immense amount of disease. "Koosh" tonic butters were shown at Stand No. 2 by the Company of that name, 24, King William-street, E.C.; the Church of England Temperance Association lent for exhibition a street hand-cart or barrow, arranged for the sale of cheap non-intoxicating drinks; and the Gerolstein Mineral Water Company, 153, Cheapside (Stand No. 4), had a collection of their mineral waters and their Anglo-Bavarian Lager Beer. Messrs. Mottershead & Co., 7, Exchange-street, Manchester, exhibited what they call Banger's preparation of the Natural Digestive Elements, including peptonised beef jelly and self-digestive food. Messrs. Allen & Hanbury, Slough



court, Lombard-street, brought under notice of the visitors (Stand No. 7) four malted dietetic articles, including a new and improved form of Liebig's well-known food for infants and invalids. The description of the contents of Stand No. 9, Messrs. Burroughs, Welcome, & Co., 7, Snow-hill, E.C., occupied no less than seven closely-printed columns in the catalogue. The articles exhibited included a fluid called "Hazeline"—recommended by the patentee for allaying inflammation upon irritated surfaces of the mucous membrane—a distillation from the inner bark of the *Hamamelis Virginica*; Burrough's Beef and Iron Wine; and Burrough's Ammonia Inhaler. They also showed their new medical pocket case; a tincture press for laboratory purposes; and some other novelties, which would have been valuable additions to a medical exhibition, but which had little interest to the non-professional minds of the majority of the visitors. Miss McMullin, 35, St. George's-square, S.W. (Stand No. 2), exhibited a patent electro-glacial apparatus, consisting of various kinds of brushes, for which are claimed many advantages in point of portability, magnetic power, and effectiveness over the ordinary galvanic machines. Messrs. Feltoe & Sons, 27, Albemarle-street, Piccadilly (Stand No. 20), lime-juice manufacturers, show an interesting collection of their manufactures, including the "Specialite" Lime Juice, to which special reference was made in the last number of HEALTH. Mr. Frank Wright, 27, Merton-road, Kensington (Stand No. 21), maker of unfermented wines and fruit essences, was an exhibitor, as also were the Greek Wine Company, 20, Piccadilly; the Australian Wine Company, Mill-street, Hanover-square; and Messrs. W. M. Nicholls & Co., Great St. Helens, the London agents for the Italian wine-growers. The Cereals Manufacturing Company, New York, were well to the fore in this class, their agent, Mr. B. Lampe, 44, Great Tower-street, exhibiting (Stand No. 22) specimens of nearly every cereal grown in the United States prepared for almost immediate use. The increasing popularity of the many preparations of farinaceous food now offered to the public is a healthy sign in every sense of the word. Mr. Alexander Grant, 146, Oxford-street (Stand No. 23), had a show of whole meal, and other descriptions of bread and biscuits, and Mr. J. Edmunds, 134, Pentonville-road, N. (Stand No. 32), exhibited several condimentary preparations. Mr. G. Mellin, Marlborough Works, Peckham (Stand No. 30), brought under the notice of matrons his food for infants and invalids, which, it is stated, has undergone a process of artificial digestion, the starch of the component parts of the food having been thoroughly transformed into grape sugar—this being the one of the group of starchy and saccharine substances which can be taken up by the assimilating organs and introduced into the current of circulation. Messrs. W. Hill & Sons, 60, Bishopsgate-street, E.C., had (Stand No. 33) samples of all the flours of the world, the American flour being described as of very strong and fine colour, but deficient in flavour, whilst the English milled wheat was credited with possessing the very reverse qualities—being full of flavour, but wanting in strength and colour. They also exhibited some specially-prepared whole meal bread, intended to take the place of the ordinary English brown bread, when, as is sometimes the case, the crust is found to be too hard to be palatable. Some malted nursery biscuits, shown on this stand, are made with flour which has been malted by a new process, so that all indigestible matter is entirely removed. The Maltine Manufacturing Company (Limited), Hart-street, Bloomsbury (Stand No. 102), exhibited maltine prepared broth in a liquid and solid form. "Maltine" is an extract of malted wheat, oats, and barley; it is stated

to be more nutritive and digestive than other extracts of malt which are made from barley alone, and is recommended by many celebrated medical men in the American States. Among other exhibitors in this class may be mentioned Messrs. Crosse, 3, Catherine-court, Tower-hill, lime-juice and non-alcoholic cordial makers (Stand No. 111); Messrs. Young & Postans, 35, Baker-street, makers of effervescents, antiseptic solutions, &c. (Stand No. 112); and Mr. W. K. Stevens, the Flitwick Mineral Springs, Beds.

CLASS III.—THE SANITATION OF THE HOUSE AND HYGIENIC DECORATION. — This section includes almost every sort of invention connected with the building and decoration of dwelling-houses, some of the exhibits having little or no connection with the subject of house sanitation. Mr. Robert Adams, 7, Great Dover-street (Stand No. 34), is the patentee of a number of ingenious domestic appliances, including a reversible and sliding window, which can be instantly changed from vertical sliding into swinging sashes; and a patent sash-bolt, which fastens a window at any distance and gives a vertical ventilation without draught. Messrs. J. A. Williams & Son, 21, Queen's-road, Bayswater (Stand No. 37), showed a variety of outside and inside blinds and window-shades manufactured by them; and Messrs. C. Hindley & Sons, 290, Oxford-street, had their stand (No. 48) prettily arranged as a drawing-room, so as to display their embossed leather wall-hanging, artistic furniture, and non-arsenical wall-papers. Messrs. Boyle & Sons, 64, Holborn Viaduct, and Bothwell-street, Glasgow (Stand No. 5), exhibited ventilators adapted for use in every class of building, from a workman's cottage to a church or public hall. These inventions have, during the last few years, obtained a number of awards at different medical and sanitary exhibitions, and their plan for the ventilation of workmen's houses—shown here by means of a model—has the advantage of not only ensuring the passage of perfect currents of air through the building, but of preventing down-draughts, and of drawing off the sewer and other noxious gasses which so often permeate even expensively-built houses. Messrs. Scott, Cuthbertson, & Co., White-lands, Chelsea (Stand No. 55), sent a collection of hand-painted paperhangings, from which all arsenical colours are rigidly excluded. There were a number of similar productions in the exhibition, the designs, in every case, being so tasteful that it would be difficult to say which firm carried off the palm in this respect. It is claimed, however, for the manual process of preparation adopted by Messrs. Scott, that it has an advantage over machine-painted papers, namely, that the colours for the latter have to be used in a more fluid state, and that if there is anything deleterious in the colouring matter it is more likely to be detached. Further, it is stated that the hand-painted colours can be cleaned and washed at will. The Antiseptic Apparatus Manufacturing Company, 46, Queen Victoria-street (Stand No. 44), had some exhibits which were well worth the notice of sanitarians. The "Acme Antiseptic Water Waste Preventer" is constructed on the syphon system, and has a compartment to contain a powerful inodorous disinfectant, one charge of which is injected into the water each time the chain or handle is touched. The chain does not require holding down, one pull being sufficient to empty the full quantity of disinfected water into the closet or urinal. Another useful invention is an automatic flushing and antiseptic tank adapted for the use mainly of large buildings. The company also exhibits sanitary appliances of various descriptions for the purpose of injecting a measured charge of disinfectant into the pans of water-closets and urinals each time they are used, thus counteracting the effects of sewer gas.



Mr. O. D. Ward, 82, Upper Thames-street, showed (Stand No. 45) various special sanitary appliances, including Bean's Patent Direct-Oiling Valveless Waste-Preventer, and household hopper closets. Mr. Geo. Jennings, Palace Wharf, Lambeth, the well-known sanitary engineer, had a stand (No. 56), where were fitted up specimens of his various specialties, including earthenware valve and Bramah valve closets, lavatories, slop-sinks, and drain-traps. Messrs. Hayward, Tyler, & Co., 84 and 85, Upper Whitecross-street (Stand No. 73), and Mr. T. D. Bostel, 18 and 19, Duke-street, Brighton (Stand No. 74), had similar exhibits. This class included disinfectants and other articles of that description, and accordingly the Sanitas Co., Limited, Letchford's-buildings, Bethnal-green (Stand No. 57), and Jeye's Sanitary Compounds Co., Limited, 43, Cannon-street (Stand No. 58), were both conspicuous to more than one of the five senses. The former exhibited their disinfecting soaps and fluids, and also the "Sanitas" fumigator—the object of which, as its name implies, is to fill an infected apartment with the vapour of the "Sanitas" oil so as to kill the disease-germs which may be floating in the air. The apparatus is also recommended for the treatment of all throat and chest complaints. Jeye's Company showed a variety of somewhat similar preparations, and also a sanitary powder which is wholly disinfectant, and, as it possesses 80 per cent. of soluble and 20 per cent. of volatile ingredients, cannot clog the drains in which it is used. Moule's Patent Earth Closet Company, 5A, Garrick-street, W.C. (Stand No. 59), were exhibitors. The construction of their closets is founded on the well-known power possessed by dry earth of deodorising and disinfecting excretions. The practical application of this principle consists in the employment of a reservoir of earth, and of a simple and durable form of apparatus suitable for measuring and delivering a regulated charge of earth each time that the closet is used. The system is applicable to most existing closets, to all new closets, and to commodes, and its employment effectually remedies all the evils attendant on water-closets, on commodes, &c. Either earth, ashes, or charcoal may be used, but the company recommend the use of a chemically-prepared earth, the invention of Mr. G. H. With, F.R.A.S., agricultural chemist. They showed also on their stand some models illustrating the means by which an up-stairs closet may be cleansed and replenished from the ground-floor, so that the necessity of the attendant carrying the earth up and down stairs or entering the house at any time may be avoided. Messrs. Jno. Bolding & Sons, Grosvenor Works, South Molton-street (Stand No. 60), exhibited sanitary appliances adapted for private houses and public buildings. Their "Grosvenor" overflow valve closet is designed to prevent the escape of sewer-gas into the house, this being effected by means of a separate rim at the back of the closet, which renders it impossible for sewer-gas to generate in the overflow and waste pipes. Their "Simplex" self-trapping overflow valve-closet effects the same purpose, by flushing the overflow pipe each time the closet is used, this pipe being carried to the back of the valve, so that nothing can enter it from the pan of the closet. Some cabinet lavatories exhibited by this firm were also noteworthy, as containing many of the more recent improvements in their manufacture. On the whole, we are inclined to regard the sanitary exhibits of Class III. as amongst the most successful and important of the Exhibition's array. The value of such an exhibit certainly shows us that there is no lack of manufacturing enterprise in dealing with the dangers to health that arise from sewer-gas, or from impure air in our houses.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

*All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.*

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## LETTERS TO THE EDITOR.

### COINCIDENCES OF MEDICAL PRACTICE.

SIR,—The coincidences of medical practice, mentioned in your "Notes by the Way" of a recent date, are exactly in accordance with my own experience, and probably with that of most practitioners. I suppose they are more frequently remarked as curious by the surgeons than by the physicians, since broken legs and crushed fingers cannot be regulated by any such laws as account for a prevalence of bronchitis, rheumatism, or fever. I remember that, when a dresser at hospital, my fellow-students and I used often to comment upon this singular grouping of cases in the accident ward—especially of those which we used to call "stock" injuries, for which certain remedies and appliances are always at hand. Sometimes burns and scalds would come pouring in, causing a "run" on carron oil and "crown dressing"; then "rib-rollers" would be in demand; then, perhaps, a succession of Coles' fractures, scalp wounds, or foreign bodies impacted in the throat. Night operations for rupture, &c., never came singly either. I expect that most medical men in general practice have noticed a similar association in obstetric matters, not only with regard to the frequency of the night-bell's alarm, but in the repetition of particular and special cases.—Yours faithfully,

ARTHUR STRADLING.

Tuffnell-villa, Watford, June 8.

### DR. CARPENTER AND VACCINATION.

SIR,—Dr. Carpenter has given, in the letter in your issue of the 1st, a statement, or series of statements, which any ordinary reader would suppose he meant to be given upon the authority of Dr. Colin. Having read Dr. Colin's "La Variole," and finding that it did not contain the "23,469 deaths" in the French army from small-pox, nor any mention of such a number, I wrote the learned and esteemed doctor, and he has acknowledged that they are not in Colin; but he has not given me, nor can I find out, the authority for them. Dr. Colin, however, to whom Dr. Carpenter refers us as a great authority, and he even says, "than whom there can be no greater," gives some very interesting information in his work.

For instance, we are often told that our "hospital nurses" owe their immunity from small-pox, such as it is, to being revaccinated. Dr. Colin had, locked up in a huge small-pox hospital inside besieged Paris, forty doctors and forty nurses who did not take small-pox; and yet a "great number of these persons would not yield" to his counsels to get revaccinated (p. 114). Thus it becomes clear that such immunity as our nurses enjoy is not due to revaccination. Further, we are informed that M. Lanoix, who used similar, and had some time before been using similar animal vaccine to that used by Dr. Martin, obtained permission to vaccinate (revaccinate) the entire Parisian army, and especially the Garde Mobile. But Dr. Colin does not know if he found himself able to complete it (p. 50). In the absence of this knowledge, how can any one tell, as the French army was not revaccinated, and as regards the destruction of the first army, we know they were not destroyed, but captured and confined; and it was during the period of imprisonment that they suffered so severely from small-pox. However that may be, it is certain the regular revaccinated French army suffered enough in Paris. Page 70 of Colin gives 3,092 cases of small-pox, and 481 deaths from this army; and 4,486 cases of small-pox, and 593 deaths from the Gardes Mobiles. I leave it to any one to moralise on the difference, the fact remains clear that the revaccinated suffered heavily. Dr. Carpenter quotes Colin in



respect of Leipsig. Let me quote him in respect of Berlin. He tells us that it was at Berlin the epidemic was the worst, for from Jan. 1 to Oct. 26, 1871, there were there, 14,358 cases of small-pox, out of whom 4,218 died! This altogether surpasses any of our English experience. Was it due to neglect of vaccination? It was not! For Dr. Colin says, p. 18: "The gravity of the evil at Berlin shows us how much already, all to the contrary notwithstanding, the practice of vaccination and revaccination leaves much to be desired among our neighbours," the Germans. Dr. Colin, p. 99, tells us that the want of prophylaxy in vaccination was stated, as established by incontestible proofs, by Dr. Depaul, "the eminent professor." And Dr. Colin adds that he believes it quite as much as did Dr. Depaul. What, then, does Dr. Colin propose to us? Instead of abandoning a practice which has so manifestly failed, Dr. Colin goes on to argue for the protection of vaccination being good, but only good for a very short time; and he actually demand that it be exacted many times over (p. 100, &c.) A long series of operations on each individual is what Dr. Colin asks for! I am amazed at the demand. If we submitted to such exactions, the art of medicine would soon be the disease, and not the healing art.

But Dr. Colin confesses to 263 revaccinated German deaths, or, say, 2,200 cases of small-pox; of a regular mortality of one, two, or four per ten thousand for some years before the war, in the French army. He tells us of 3,077 cases which must have been revaccinated in the regular army; and it appears that the ages which suffered most were twenty to thirty-five—just those which (pp. 92, 93) had yielded the best percentage of revaccinations.

And why does Dr. Carpenter take us such long journeys round the globe? And if he takes us to France, why does he not tell us of those terrible vaccine disasters which France has especially been notable for? The terrible, pitiful, and irremediable "accidents" recently in Algiers, where fifty-eight young French soldiers were revaccinated with a grave disease from the child of a Spanish woman. Things like this moved Sir Thomas Watson to pity, and to words of great force, full of genuine pathos. Has Dr. Carpenter no such compassion?

I will say no more of Dr. Martin's virus than that it was very extensively used in San Francisco in 1876, and that since then the small-pox has not respected it. Who is the official who dare answer for two millions of vaccinations? The very fact of any one pretending to do so is enough to cast doubt on his certificate. We want more hygiene, more sanitation, more ventilation, and we shall soon have less small-pox.—Yours truly, ALEX. WHEELER.

Darlington, June 12th, 1883.

## QUERIES AND ANSWERS.

[Owing to pressure on our space, several Replies are held over.]

### GENERAL.

INQUIRER.—The book was published last year.

A. C. K.—See page 40.

R. MCKERRELL.—By the back of the tongue (*dorsum*, as it is named in anatomy) is meant the upper surface, or that which bears the papillæ, or taste projections. Huxley's words mean what you yourself may prove—namely, that when the mouth is shut, this upper surface of the tongue rests against the roof of the mouth. This is undoubtedly the natural position of the organ when the mouth is closed.

G. H.—We know the gentleman, but can't say we admire his ways or temper.

### SANITARY.

B. G. S.—Write to the makers direct.

ALPHA.—No; the syphon, certainly.

SUFFERER.—We quite agree with you that drains should be frequently flushed, especially in summer weather. No U-bend on a trap, however, can be considered a sufficient "trap." The water supply of closets should be allowed to run freely for some time each day, so as to flush them. A saving of water in this direction is, as often as not, a wasting of health.

FRED. W. C.—The plan consists in raising the lower sash of the window two inches or three, and of placing therein a solid block of wood resting on the sill, and on which the lower sash would in turn rest. In this way the lower sash is raised above the bottom of the top sash, and air comes in between the sashes.

### MEDICAL.

CINCHONA.—Don't be either uneasy or alarmed. By ordinary attention to your general health, all your anxieties will disappear. The special function you speak of is constantly active. The tonic

we have found most useful is Fellows' Syrup of the Hypophosphites. We do not know the physician you mention. We shall always be glad to advise you in any way we can. Send name and address.

CLAREMONT.—Your case is that very common one of a nervous person whose physical weakness becomes exaggerated by their mental state. So far as we see, you would benefit from a thorough change. Why not try Bangor or Beaumaris, as you are resident near these places? See advice given to "Cinchona" above; but a thorough change is most likely to set you up.

PHAETON.—See our papers on the "Hair," and especially that part dealing with "Acne," from which you suffer. Try the effect of rigid cleanliness; slight and mild aperients (*e.g.*, "Æsculap Water"), and washing occasionally with a little acetic acid added to the water. If your general health improves, you will no longer be troubled. Take a seaside holiday, if possible, but avoid chills.

HOFFNUNG.—Quite right; you will certainly be cured by the observance of (1) care in diet, which should be unstimulating; (2) cold baths, if they can be borne, in the mornings; (3) tonic remedies (see advice to "Cinchona"); (4) by cultivating a cheerful frame of mind, and not being morbidly anxious. You are mistaken as to the source of the secretion you mention; it is a much less important one, and is the result of slight irritation. Quacks flourish on cases like yours.

HOPEFUL.—(1) A result of lung-inflammation, where the lung has a tendency to become less active in its work. (2) Certainly curable, if not of old standing. (3) A sea-voyage will be decidedly beneficial (*e.g.*, to Australia), unless extreme weakness contraindicates this advice.

AN IMPROVED ONE.—Your best route is *via* Hull, where you will find the "Wilson" line of steamers sailing to Norway. Write to Messrs. Wilson for one of their programmes of tours. Buy Baedeker's "Guide to Norway," which will give you full information. In Norway, you must not expect to find the full comforts of other countries, as living is primitive. Mr. Mattieu Williams' book on Norway should be good reading for you. As regards the Continent, in your case, we should say avoid the south, and keep to the North Sea and Baltic coasts in the summer. Try Feltoe's "Spécialité" lime juice as a drink, and avoid fruits for a time. In a bracing air your weakness will improve.

F. GARDNER.—If you go to the seaside, select a place not too bracing. Aldeborough, in Suffolk, would suit you, we fancy, or Bournemouth. If you elect to go inland, try Bath or Buxton.

EUROPA.—See our papers on the "Hair," in which remedies for "Acne" are mentioned. Sea-bathing usually tends to irritate the skin in this disease.

J. E. ANTHONY.—There are various cures, we believe, for stammering. That, we believe, most successful consists in making the subject practice daily in *chanting* his words—most stammerers can sing with ease—and in gradually acquiring a command over his words. He should be made to speak or to sing his words slowly at first. There is no book, so far as we know, on this subject.

D. E. P.—Yes; go away for a change. See advice to "Cinchona" and "Claremont" above.

PRÊT D'ACCOMPLIR.—Your symptoms are those of dyspepsia. We should advise (1) a change of food, (2) eat vegetables and fruits, (2) don't take supper or eat just before going to bed, (4) take a mild aperient occasionally (*e.g.*, "Æsculap Water"). The mucous membrane of nose and lungs sympathises strongly with stomach derangement. Gargle with a little Condy's Fluid in water.

VICTIM.—Our wonder is that after such a course of living as you have had you are as healthy as you are. (1) Stop the filthy habit of chewing tobacco, which no sensible person can practice; (2) smoke (if you will smoke) very moderately; (3) your malt liquors simply increase your ailments—they probably *cause* them; (4) place yourself under the care of a physician at a hydropathic establishment, and reside there a few weeks, taking moderate exercise and living plainly. It is useless to advise you further till you reform your mode of life altogether.

W. HEWITT.—A sea-side residence, with freedom from cold, would certainly suit you. Our opinion is that your present confined occupation is largely the cause of your troubles. See advice to "PRÊT D'ACCOMPLIR" above.

CURIOUS.—A difficult case, and one in which good surgical advice is necessary. Possibly a starch bandage might be recommended, or cold affusions to the joint. See a surgeon.

C. BATES.—Nobody can expect you to run 150 yards "very fast" without feeling "short-winded," unless you are in good training. You commit the common mistake of supposing that your body can perform a large amount of work without due training. Give up such a foolish notion, and content yourself with moderate and rational exercise.

DISTRESS.—Your case is one of debility. Are you sure you live well enough? There is a common error in treating yourself too



rigorously. If you take our advice you will (medicinally) try the effect of a little good claret taken along with dinner. We have seen this plan attended with much benefit. Your digestive power is very probably weak.

G. F. H.—Apply a little glacial acetic acid to the warts; but be careful to avoid allowing the acid to touch the skin.

J. A. M.—Attend to the patient's chest complaint. The symptoms proceed therefrom. There is no remedy other than getting up the strength and general health.

PISCES.—See reply to "Europa" in present number.

LEITH.—Try Melrose, or Pitlochry. Try the following:—Tincture of squills, one and a-half drachms; dilute sulphuric acid, one and a-half drachms; tincture of opium, half a drachm; infusion of cascarrilla to make up six ounces. A tablespoonful thrice a day.

COLONIES.—Australia, certainly. Unless the affection is far advanced, a sea-voyage, or residence in Australia for a time, may effect a cure.

TED GARTH.—"Hay Fever" is caused by a *bacillus* (see our "Germ Theory" articles). Take little or no liquids for forty-eight hours, and try spirits of camphor sprinkled on a handkerchief and inhaled. Inhale (for five minutes), night and morning, the steam arising from thirty drops tincture of iodine dropped into two pints of boiling water.

COSMOS.—See our papers on the "Hair," where various stimulating lotions are given. Your case is one for a wise course of tonics. See advice to "Cinchona" in this respect.

INDICUS.—Why not try a thorough change of dietary? We have seen cases like yours benefit largely from an alternation of vegetarian living one week with mixed diet the next. The habit of constantly taking aperients may be obviated by such a change of diet. We shall be glad to advise you further, if necessary; meanwhile, try light puddings, fish, soups, fruit, &c., in preference to present dietary.

A. SCOTT.—See advice to "Indicus" above; but at the same time, we should strongly advise you to consult a physician, and have the state of your health thoroughly examined. The kidney symptoms will require special attention from a medical man, and may readily be relieved. Our opinion is that the latter symptoms are at the root of your troubles.

DICKEY.—No; cold baths in your state of health would be more likely to do harm than good. We incline to the belief that a residence for a time on the South Coast—Bournemouth, Hastings, or Torquay, perhaps—would suit you better than any other mode of treatment. If this cannot be done, write again.

W. M. E.—Torquay is not adapted for you. It is specially suited for consumptives, and others suffering from chest affections, and is mild and relaxing in climate. We should think you would be better suited at Ilfracombe, on the West Coast, or if on the East, at places which are bracing—e.g., Aldeborough, Margate, Ramsgate, Eastbourne, Folkestone, or Dover. Consult our papers on "Health Resorts."

POOR MECHANIC.—If you are wise, you will leave your legs alone. No operation short of a serious surgical one (which few, if any, surgeons would attempt) could remedy your deformity. There are several Orthopaedic Hospitals in London, the addresses of which you can obtain in the "Directory." But we should say to you—be content with such legs as you have. There should be many a nobler aim in your life than that of joining the Volunteers.

A. Q.—1. No; we said a tablespoonful of Cond's in half a tumblerful of water. Use it five or six times. 2. Cheaper to buy Cond's. 3. No; not much or any use in that affection, but might be tried, nevertheless.

CAROL.—The affection meant is possibly some functional disturbance due to over-exertion. It is very unlikely that any actual "strain" exists. The symptoms would be pain, general uneasiness, mental worry, sleeplessness, and general debility. Treatment—rest.

FRANCIS.—In reply to you, we are strongly tempted to say, "served you right." When people do foolish things knowingly, they have only themselves to thank for discomfort. You need not feel alarmed, so far as we can see. The bruise will disappear in time. Leave it alone.

JUNO.—Your practice of eating, first at 7 a.m. and then at 8, is bad. You give your stomach too much to do. Take a good breakfast—say at 7.30 or 8; dinner at 12.30 or 1; and your tea at 5. You may take something light thereafter, at least two hours before bedtime. Attend to the condition of stomach and bowels. Masticate your food well, and rest after eating for a time.

J. S.—You are most probably constitutionally pale-looking. In such a case, it is highly improbable that you can in any way become robust-looking. But you may at least acquire a normal and full state of health, even although you may not appear as ruddy as others. Live well; take plenty of open-air exercise, in a country life if possible; and as a tonic try Wyeth's Dialysed Iron, or *Fer*

*Bravais*. Possibly a course of gymnastic exercises, carefully conducted, would do you good.

EPHING FOREST.—Mild doses of an aperient water, such as "Æsculap," vegetable food for a time, cold bathing (if it can be borne), and open-air exercise. Write again if not relieved.

LOUISA.—The lecture is published in "Health Lectures for the People" (second series), published by Macniven & Wallace, Edinburgh. We do not quite understand your query about "swallowing hydatids from the dog in eating strawberries." The danger of unwashed salads arises from the fact that manure is more likely to have been used in their growth than in that of strawberries. The ova or eggs of the tapeworm, whose young (in man) form "hydatids," are microscopic in size. All dogs should be carefully attended to in the matter of feeding; and, as a rule, house-dogs, whose food is supervised, do not harbour hydatids.

JANE.—Cassell's "Family Physician," or Ward & Lock's "Household Medicine," ought to serve your purpose. A handy little "Household Medicine," written by the late Dr. Begbie, of Edinburgh, is published by Messrs. T. Nelson & Sons.

FARNWORTHIAN.—See replies to "Rickardo" (No. 5, HEALTH), and "Hopeful" (No. 6). You must make a mental effort, seek cheerful society, with moderate exercise, and take half a teaspoonful of Fellow's "Syrup of the Hypophosphites" thrice daily.

J. L. M.—Yes: not difficult to a surgeon, but apt to involve large blood-vessels, and to be troublesome from bleeding. 2. Never performed by ligature here. We should say such a process would be dangerous from liability to mortification. 3. No; but we believe the operation in the East is very primitive, and is often attended with fatal results.

FLOBBIE (Barrow-in-Furness).—[We are not quite sure of your *nom-de-plume*, and, by the way, address the Editor, and not the Publishers.] Before we can aid you as we should like, you will require to be more explicit regarding your food, habits, &c. Please send these details.

FRED. HARREY.—Live temperately, take nourishing food, moderate exercise, and try the tonic recommended to "Farnworthian" in present number. Arrange also to try a change of air for a time. But your mental command and moral control will play as much part in the cure as physic.

OMAN.—See reply to "Fred Harrey" above. You need not be alarmed, as you suffer only from nervous debility, which time, moral restraint above all, and the means recommended above, will cure.

ALEC.—See replies to two preceding correspondents, and rely upon your own common-sense to guide you in future. Turkish baths would be apt to weaken you at present. A change to the seaside and the tonic above commended should cure you.

FRED DERBY.—No; we would not recommend you to wash the hair too frequently; shaving the head might prove beneficial; but we advise you to try the remedies and attend to the directions given in our "Hair" papers.

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## NOTICES.

Just published, Part 2 (containing the June numbers), price 1s.  
The first Monthly Part, including Nos. 1 to 7 (April and May), price 1s. 4d.; post-free, 1s. 8d., is still to be had.

## TERMS OF SUBSCRIPTION.

The terms of Annual Subscription to the weekly numbers of HEALTH are as follows:—

To any address in the United Kingdom .....	10 10
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To the United States of America.....	\$3.25, or 13 0
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All subscriptions are payable in advance.  
HEALTH is also published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.  
P. O. Orders and cheques should be made payable to the Publishers, MESSRS. WYMAN & SONS, London, at the High Holborn District Post-office.

OFFICE: 74-76, GREAT QUEEN STREET, LONDON, W.C.



# • HEALTH •

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JULY 6, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE "over-educating" tendency of our age is being ventilated anew. Correspondents of our daily journals speak of the over-taxed powers of children attending Board Schools. One lady writes of children's health being injured by "forced home-lessons," whilst a gentleman retorts that he never came across a child in his life "who was suffering from over-education." He adds that it is "over-crowding in towns" (but by no means over-educating) "which is the greatest obstacle to health."

\* \* \*

AN "Inspector of Schools" adds his mite to the controversy by stating that children fall ill through health-neglect, and that "over pressure is a thing almost, if not entirely, unknown in elementary schools." He says, further, that ladies are "the deadly foes of education, especially the education of their own sex." This will be news, indeed, to the ladies, we fancy, and the Inspector who writes so may be called by a stronger epithet than is implied in the term "ungallant." But a far more important contribution to the educative "over-pressure" discussion is made by Dr. Hallows, of Redhill, Surrey. In a letter to the *Standard*, Dr. Hallows says that within six months he has seen two children, aged six and seven, "die from inflammation of the membranes of the brain, largely due," in his opinion, "to the strain on their mental powers from the work required of them by the existing Code."

\* \* \*

It would be interesting to hear what the teachers have to say on this subject. Judging from the letters we receive, a very large number of teachers themselves suffer from the nervous excitement and anxiety induced by the efforts they require to make for the visits of Her Majesty's inspectors to their schools. It is not only the naturally nervous teacher who is thus affected. The ordinarily collected individual likewise knows that he must, by hook or by crook, keep his pupils up to the mark, if he is to satisfy the requirements of the Code. We live in an age of competitive cram, full of danger from over-pressure. This fact not even Her Majesty's Inspectors may question. That which parents should look to is their children's health. Health, like charity, begins, not at school, but at home.

THE cholera in Egypt has aroused a feeling of insecurity in this and other European countries. There seems no doubt that the disease at Damietta, at first thought to be typhoid fever, is really cholera, and the mortality returns from the affected district are alarming enough as we write. But the inhabitants of Britain should possess their souls in patience and hope. There is as little chance of the cholera becoming prevalent here as there is of its being extinguished in Egypt until a pure water supply and sanitation at large are fully represented in Eastern life. Cholera seems to be propagated through the contamination of water by chlora matter derived from patients. Invariably, when a pure water supply has superseded a suspected supply, cholera has disappeared, or certainly has never become epidemic. Householders, and all others charged with the duty of supervising their own and other people's health, should have their cisterns cleaned out regularly, and thus avoid any chance inroad of that common summer diarrhœa which is often the precursor of more serious troubles.

\* \* \*

APROPOS of cleaning out cisterns (a duty which should be ranked with the sweeping of chimneys as a necessary and regular household duty), a friend once favoured us with a catalogue of the interesting relics he obtained from his cistern, which had not been once cleaned out, until he took alarm from the advice given in a health-lecture. The items were as follows:—Fine mud, 2½ in.; small red worms, any amount; the bones of mice, numerous (his family had evidently consumed infusion of mice in the shape of the domestic water-supply); a small live eel, one specimen; fragments of slates (from the roof), several; a piece of a leather shoe, from the water-pipe, possibly; drowned insects, a few; iron nails, six; and one or two pieces of coal. After these interesting geological, zoological, and other finds, our friend's cistern has been systematically flushed every month.

\* \* \*

MANY and wondrous are the uses of the pig; but it appears that a new field of utility has been found for the porcine animal in the shape of a subject for experimentation on the effects of alcohol. Doubtless the human inebriate has frequently been named a "drunken pig," but it has been reserved for science to present us with the grim reality in the life of the porker. Alcohol, slowly and continuously administered, makes the pig very ill. Its flesh cannot be sold for healthy pork; and, although liver and stomach were congested, it would seem that the pig does not suffer like the human inebriate from "drunkard's liver." Absinthe produced in the pig great muscular excitement and irritation of the skin. The more impure the spirit, the more marked were the symptoms observed after death. Two pigs died after three years of "tippling" with bad or impure spirits; whilst other pigs, who had purer alcoholics given them, actually appeared, says the report, to resist intoxication. Pigs, like men, may apparently become hardened to the effects of alcohol.

\* \* \*

VISCOUNT NEWPORT, last week, asked the Chairman of the Board of Works, in Parliament, if, since the introduction of wood pavement, "serious affections of the eyes and lungs" have not "been largely on the increase." There must surely be some grave reason for such an inquiry; but as no information was afforded respecting the evidence on which the allegation of disease in connection with wood-paving rests, we are forced to wait for "more light." It seems highly improbable that any connection exists, in this instance, between the wood-paving and eye or lung disease. But what we certainly should regard as an improvement in



the use of wood-paving, would be its frequent flushing with water. After a shower of rain has matted the dust into sticky flakes, wood-pavement becomes a nuisance. It should be easy to flush the wood-paving with an ordinary hose.

\* \* \*

Two of the popular terrors of life will soon be upon us—if, indeed, they have not already arrived with the warm weather. We allude to sunstroke and hydrophobia. As regards the latter, we intend shortly to reprint in *HEALTH* the substance of an article on "Canine Madness," which was contributed to a medical contemporary some time ago. Therein we shall hope to show that much groundless alarm exists with reference to hydrophobia—alarm productive of illness in man, and of gross cruelty towards our dogs. As regards sunstroke, we may only at present advise all who are exposed to the sun to protect the back of the neck and head especially. The *medulla oblongata*, or top of the spinal cord, appears to be the nerve centre especially concerned in producing sunstroke; which, however, is not due so much to the direct action of the sun's rays, as to exertion in a high temperature. It would be more appropriate, in fact, to call the ailment "heat-stroke."

\* \* \*

"HEAT-STROKE" comes on in labourers sweltering in the fields and in soldiers on the march, whilst it has been seen at night in persons sleeping in badly ventilated places, and in children sleeping in stifling bedrooms, who have been exposed to great heat during the day. A rise in the temperature of the blood takes place, and this acts on the medulla as a kind of poison. The sweat and skin action are arrested, and as, in such a state, there is no perspiration being poured out to cool the body, a further increase of heat occurs; and then the medulla, acting on the nerves which govern breathing and the heart's action, is apt to check both functions. In a bad case of sunstroke, therefore, the patient falls down as if shot, and may die in a few minutes from arrest of breathing and the heart's action.

\* \* \*

Of course, the appropriate treatment in these cases is the application of plenty of cold water and ice to the body at large, and to the head particularly. A person in sunstroke should on no account be bled. Dr. Edward Smith recommended a strong infusion of tea to be given.

\* \* \*

SOMETIMES sunstroke is due to a kind of apoplexy, which owes its origin, in turn, to the nervous centres which regulate the bloodvessels being specially affected. Here, the patient does not fall senseless, but usually exhibits mental disturbance, which is succeeded by drowsiness, deepening into insensibility. The treatment in this case is the same as for the more sudden "stroke."

\* \* \*

WE have known of a case of sunstroke occurring at a picnic, where a young gentleman, who had been unusually energetic in the arrangements therefor, joined in the dancing, not wisely, but too well. He fell down senseless, and exhibited for a time all the symptoms of arrest of the heart's action and breathing. Fortunately, medical aid and plenty of water were at hand. He was drenched with cold water, and part of the remains of the festivities, in the shape of an ice-putting, was duly applied to his head. He ultimately regained consciousness, and was conveyed home; but the incident is valuable as teaching us that even an ice-putting may possess its use in the "relief of man's estate."

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### THE HEALTH OF AMERICAN WOMEN.

BY A PHYSICIAN.

FIRST PAPER.

It has often been remarked that our cousins across the Atlantic are, by many degrees, more outspoken concerning all social, political, and religious matters than is usual amongst ourselves. There is, we think, no denying that the proposition thus advanced is perfectly true. There exists a fearlessness in American speech and writing, especially where strong and earnest conviction of right is present, to which we of the old country are comparative strangers. No one who reads—say the leading American reviews, or who is accustomed to dip into the higher classes of American literature, lay and scientific at large—can fail to be struck with the freedom of speech and expression which characterises the great people who are of one and the same lineage with ourselves. We are often apt to stand amazed at this freedom of utterance when, in American journals, we read discussions couched in very excellent English, and dealing with problems usually relegated in England to select professional circles. The borderland betwixt lay and professional circles in the New World is not so sharply defined as amongst ourselves, just as the relations of the sexes are modelled on lines which in the mother country would seem to offend the primary canons of society. American women possess a freedom—to cite but one illustration—of speech and movement which is well-nigh unknown here; so much so, indeed, that the terrible "Mrs. Grundy" of English life would find her "occupation gone" were she to emigrate and attempt to establish her domain amongst our American cousins.

There is much that is beneficial in the comparatively unrestrained expression of opinion to which we have alluded. For one thing, reforms move quicker in America than amongst ourselves. Social shams are more speedily scotched, exposed, and killed off across the sea than is their fate here. Whoever has aught that is worth hearing, or whoever has the confidence begotten of a good cause, need not hesitate, from any social considerations at least, from giving the American public the full benefit of his or her reflections. It is on this account that, in a recent number of the *North American Review*—a high-class monthly—we find the topic which heads this article discussed with a plainness of speech and an absolute freedom of utterance to which English journalism is as yet a stranger. There may be counterbalancing items and phases in this fashion of plain speaking. That it is liable to abuse we do not deny. But under wise guidance this freedom becomes a power of immense strength, and serves to expose the very kernel of a subject with an incisiveness and rapidity that of themselves are the props and foundations of criticism.

Three writers, Dr. Dio Lewis, Mrs. Stanton, and Dr. Chadwick, contribute a symposium on "The Health of American Women" to the journal above named. Each writer expresses his or her views plainly, often eloquently, but always respectfully. As the wave of health-reform in women's dress has already touched our own shores, it may prove profitable if, in the interests of the extension of such reform, we endeavour to analyse American opinion on this all-important topic.

First on the list comes Dr. Lewis. He begins his paper with the telling remark that "there is a popular notion



that the ill-health of our women (we may add of the sex at home also) is natural—that they are the victims of functions whose exercise constitutes a sort of invalidism. The weaker vessel," he adds, "is a favourite phrase." Drawing his first arguments from savage life, Dr. Lewis would have us remember that the first step "is to show that woman in her normal state is a healthy vital being." For thirty years Dr. Lewis has questioned missionaries, travellers, and others regarding the health of savage women, with the result that "in no case has he been told that the women are in worse health than men, whilst in more than one instance it has been stated that the health of women is better, because of various evil habits among men." The Dahomey women speak of men as "contemptible wretches," Dr. Lewis merely using this evidence (obtained from a resident in Dahomey), to show that where opportunity is given the physical development of the gentler sex may excel that of the sterner. The succeeding sentences will bear quotation *verbatim* :—

"In a long foot-journey through Ireland the writer saw thousands of bare-footed young women, nearly as large and strong as the young men; and in different parts of Europe, in the rural districts, was struck with the vital proportions of the women. Those who have seen Indians on their marches through our Western wilds, declare that the women are second only to the ponies in the size of their loads and the distance they carry them.

"The reader who concludes that women may, by nature, be man's equal in health and vitality, will doubt the possibility of her recovery from the injuries of dress and house-life. The writer has recently spent three summers camping in the mountains of California. From time to time ladies joined our party. Quite a number of these were delicate invalids seeking health. They all adopted the rough, short, mountain dress, and rode astride. Several of them became the most adventurous and enduring members of our large company. As an illustration, Miss M., from New York, a wealthy and highly-accomplished lady of twenty-six years, may be mentioned. We gladly welcomed her, though we feared her health might detain the party. Her first week amused us. She was certain that with the removal of her corsets she would 'fall to pieces,' and she could never, never ride astride, because it was 'so awful,' and she was sure the peculiar position would make her troubles worse. On leaving us she said: 'I have spent five months in the saddle. When I came I was in wretched health. Now I am as free from pains and weaknesses as these squaws.'" "Such miracles," adds Dr. Lewis, "were common in our camp-life."

Next follows an account of the "Boston Normal School for Physical Education"—the account of which we recently published in these pages. Here the girls excelled in the physical exercises, many having been "school teachers in broken health, seeking in the new profession (that of teaching gymnastics) a better means of living." So, also, at a large girls' school in Lexington, Mass.—an account of which we also quoted in HEALTH—girls who came delicate, under a proper physical training developed into hale, hearty young women, to whom every hour of life was a pleasure, where all had formerly been pain and languor.

Dr. Lewis sums up very forcibly the errors which he considers prevalent in the dress of American women. We need not add that his remarks apply with equal force to multitudes of their British sisters. Firstly, comes the corset which reduces the waist from three as a minimum to fifteen inches as a maximum; and distorts and displaces permanently the bodily organs. Second, in the list of faults, Dr. Lewis places "unequal distribution" of clothing.

Chest and hips are overloaded; the arms and legs thinly clad; and the imperfect circulation consequently induces congestion of head and trunk. Thirdly, he mentions "long, heavy skirts, which drag upon the body, and impede the movements of the legs." Fourthly, come tight shoes, arresting circulation and making easy walking difficult. High heels increase the difficulties of walking, and, by altering the centre of gravity of the body, produce serious displacement of internal organs. The fifth head is that of the corset. "Do women practice tight-lacing?" asks Dr. Lewis. "Since beginning this paper," he replies, "we have asked this question of more than a score of ladies. The answer is 'No.'" But our author waxes sarcastic when he writes: "One lady, whose waist has been reduced more than eight inches, declares she has heard about this lacing all her life, but has never seen it. She adds, 'I wear a corset, though, from my immense size (nineteen inches) you would hardly think it. And I fancy that ladies generally manage about as I do; they wear a corset to keep their clothes in shape, but it hardly touches them.' In forty years' professional experience with the wearers of corsets," says Dr. Lewis, "we cannot now recall a single confession, even from those who had reduced their waists from ten to fifteen inches. One can write freely on this subject, with no fear of hurting the feelings of lacing women, for no one of them will imagine herself guilty; and one can speak as disparagingly as he pleases of diminutive figures, for the smallest woman regards herself as 'perfectly immense.'"

## WAYSIDE POISONS.

BY PHILIP FOSTER, M.D.,

Author of "What To Do in Accidents and Sudden Illness," &c., &c.

"Within the infant rind of this small flower  
Poison hath residence, and medicine power."  
*Romeo and Juliet, Act ii., Scene iii.*

WOULD that every one had the knowledge possessed by good Friar Laurence, for the fields and hedges of this fair land owe much of their beauty and colour to plants of a highly poisonous character, and ignorance of this danger has not unfrequently led to serious, sometimes to fatal, accidents. As a precise description of these plants would be tedious and, from the unavoidable introduction of technicalities, unintelligible to the general reader, the features by which they may be most readily recognised will only be pointed out. It has been thought advisable to indicate also the symptoms to which they give rise, and the treatment to be pursued until medical assistance, which should be immediately summoned, can be obtained. The best known is, perhaps,

### THE POPPY,

Whose crimson leaves form such a rich contrast to the yellow corn amongst which it flourishes. This and the white variety contain opium, the symptoms of poisoning by which are drowsiness and insensibility. Emptying the stomach by an emetic, the administration of strong coffee, keeping the patient awake by walking him about, pinching or pricking him, &c., are the best treatment.

### THE FOXGLOVE,

With its pretty purple flowers, the resemblance of which in shape to a glove-finger has given to the plant the name of "Digitalis," is also a familiar object. It occasions nausea, vomiting, faintness, and syncope, which will best



be combated by an emetic,\* followed by green tea, and brandy or wine. The patient should be placed in the recumbent position, and not allowed to sit up until the faintness has completely passed off.

#### THE WHITE CHRISTMAS ROSE,

Sufficiently described by its name, produces violent vomiting and purging, for the relief of which brandy with warm mucilaginous drinks must be given, and hot poultices applied to the body.

#### THE LABURNUM,

so much cultivated in our gardens for its luxuriant yellow flowers, contains a powerful narcotic poison. The treatment is the same as for opium. (See POPPIES.)

#### THE MEADOW SAFFRON,

from which colchicum, a valuable medicine in gout and rheumatism, is obtained, may be recognised by its leafless, delicate, purplish-pink flowers, rising with long, white tubes from the underground stem or corm. Vomiting and purging, with extreme exhaustion, are the symptoms; strong tea, brandy, and warm mucilaginous drinks the remedies.

#### DEADLY NIGHTSHADE,

easily distinguished by its shining, dark-purple berries, the size of a cherry, causes giddiness, delirium, and convulsions. Coffee and brandy should be administered freely, preceded, if vomiting be not present, by an emetic.\* Belladonna, the active principle of this plant, is often used for the purpose of imparting a large, soft and dreamy look to the eye, which it does by dilating the pupil; but the fair reader must clearly understand that this practice injures the sight.

#### COMMON HEMLOCK,

known by its purple-spotted stem and fetid odour—hemlock, water-dropwort, and water hemlock, which resemble parsnips—and

#### FOOL'S PARSLEY,

detected at once by its nauseous smell, give rise to giddiness, delirium, pains in the body, vomiting, and diarrhoea. The remedies are strong tea, brandy, and warm applications to the extremities.

#### THE YEW TREE,

frequently seen relieving the gloom of country churchyards with its bright-scarlet currant-like berries, produces convulsions, insensibility, extreme exhaustion, and sometimes vomiting and purging, calling for brandy, the recumbent position, warmth to the extremities, and, if vomiting be not present, an emetic.\*

#### MONKSHOOD,

to which medical men are indebted for aconite, is usually met with rearing its deep-purple flowers, hood-like in shape, on the banks of rivers and brooks. Symptoms and treatment as preceding.

#### HENBANE.

The stems and leaves are hairy, and the flowers of a dull straw colour with purple veins. Is a powerful narcotic. If at hand, a large tablespoonful of animal charcoal should be given immediately; in ten minutes' time an emetic;\* and then brandy or coffee. The patient must be kept awake.

#### THE SPURGE LAUREL,

met with in woods and thickets, is a shrub two or three feet in height, bearing yellowish-green flowers, and berries, which, when ripe, are black. Violent diarrhoea is the most prominent symptom, requiring brandy and warm mucilaginous drinks.

#### THE MEZEREUM,

a variety of the preceding, is rare in the wild state, but common enough in gardens and shrubberies. The berries are bright red, and the flowers purplish rose. Symptoms and treatment as preceding.

#### MUSHROOMS.

In the edible mushroom the gills are crowded, irregular pinky-red, changing to a liver colour, and in contact with, but not united to the stem; but it is best distinguished from other fungi resembling it in appearance, by the absence of their astringent, styptic taste and pungent odour. The most commonly observed symptoms are giddiness and stupor. The stomach should be emptied by an emetic, brandy given freely, and hot-water cloths applied to the extremities and abdomen.

Surely, in conclusion, I need hardly address to the reader the caution, that no part of any plant should ever be placed in the mouth unless it is known to be harmless.

DEATH FROM EMOTION.—The *Philadelphia Medical Times* records a very instructive case in which a man died from fright, and where the death narrowly escaped being attributed to ether. The patient had received a severe injury to his hip during some blasting operations. Some days after the injury a consultation was held on his case in the Wilkesbarre Hospital, and it was considered necessary to administer ether. The man objected to this, and urged that his heart was weak, but it was considered necessary to anaesthetise him. This decision seemed to affect the man strongly, he breathed with great difficulty, asked for the windows to be opened, and in a few moments died. No ether or other anaesthetic had been administered, and he had not suffered any pain from the partial examination of the hip that had been made. No particulars of the actual state of the heart are given, but we are told "a murmur" was present. There is little difficulty, however, in tracing the death to a powerful inhibitory (or arresting) influence upon a weak heart. The case has many parallels, and a very good one is quoted by the *Philadelphia Times* of a boy in India who, mistaking in the night a harmless lizard creeping over his leg for a bite from a cobra, immediately became collapsed, and died in spite of all attempts to restore him. Had the surgeons in the first case begun to administer ether, this death would have been wrongfully attributed to the effects of the anaesthetic.

HEALTH AND FOOD.—Although so far back as the seventeenth century the efficacy of fruits and fresh vegetables as preventives had been surmised, if not actually noted, it is really to the renowned Captain Cook that the credit is mainly due of having established this important fact. It took many years, however, to impress this fact sufficiently upon the authorities, and it was not until 1796 that the medical officers of the navy (among whom was the renowned Sir Gilbert Blane) obtained the regulation ordering lime-juice to be supplied to our seamen. The effect was magical; scurvy lost its terrors; and it may be that the supremacy of England at sea during the Napoleonic wars, was in part owing to the improved condition of her seamen.

\* A dessert-spoonful of mustard stirred up in a teacupful of warm water is an excellent emetic, and has the advantage of being always at hand. It should be repeated every two or three minutes until vomiting is produced, its action being assisted by irritating the throat with a feather or the finger, and by draughts of warm water. In profound narcotism emetics sometimes fail to induce vomiting, and the stomach has to be emptied mechanically, an imperative reason for the attendance of a medical man.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—*Gay.*

### XII.—HAIR-DYES.

BY DR. ANDREW WILSON.

FASHION, against the rule of which even kings are powerless, and science unable to stand, has now and then included the colour of the hair in the list of bodily circumstances which it is deemed desirable to alter. Hence arises the demand for hair-dyes and for lotions capable of altering the hue of the hair to the tint which Dame Fashion declares to be that most "æsthetic," or, what is much the same thing, most in vogue for the time being. Occasionally there may arise a demand for a hair-dye which partakes of a rational nature. A young man or woman may be troubled with a patch of hair which grows persistently white amidst the surrounding and raven tresses. The natural desire to avoid anything which is conspicuous in our personal appearance might legitimately enough lead us to desire that such a peculiarity should be modified or cured. In such a case, the use of a dye would be not only a thoroughly rational procedure, but, if a proper dye be used, a perfectly justifiable act, as much so, indeed, as the removal of a disfiguring scar by a surgical operation, or the extirpation of hairs growing in unusual situations.

The following remarks, quoted from my "Leaves from a Naturalist's Note-Book," may prove somewhat *à propos* in treating of the fashionable follies of the day in the matter of hair-dyes and kindred inanities:—

"Treading closely on the footsteps of the patent medicine vendor, we find the proprietor of chemical wares which are destined—so run the announcements—"to add to the armamentarium of the toilet-table," and which in their nature may be often harmless, but occasionally deleterious, as every physician can attest. What is to be said of the innumerable dyes for the hair and washes for the skin which are advertised broadcast? Apart from the moral and æsthetic aspect of such 'aids to beauty,' there is the medical side, with its testimony to the evil effects of the lead lotions and other compounds used for changing the hue of the hair. Nor does the modern practice of fashionable æthetics rest thus. Before me lies a ladies' newspaper, noted for its large circulation, and for the immense advertising supplement it weekly issues. Here I read of coiffures innumerable, of 'invisible foundations for covering ladies' thin partings and bald places with hair;' of 'artificial eyebrows'—these appendages being styled the beautiful of beauty—at twenty-one shillings the pair; of 'eyebrow pencils;' of *rouge végétal*; of a 'crème' for the complexion, 'a new discovery for imparting a healthy (*sic*) white or pink (*sic*) tint to the complexion;' of processes for 'effacing wrinkles,' whereby (shade of Rachael) 'the skin becomes fresh and diaphanous' (*sic*); of 'an invaluable powder warranted to whiten the most discoloured teeth;' of other 'crèmes' (sent by post safe from observation) warranted to give a 'youthful complexion' to faces of any age; of ladies who devote their time and talents to 'getting up the *face and eyes* in the most brilliant style'—one professor of this art confessing to having been 'a lady's-maid in the highest circles of England, Paris, and Spain.' All these I read with astonishment; and I begin to ask myself whether or not I live in an age when physio-

logy is taught in schools, and in which Charles Kingsley wrote, and whether or not such contrivances for ruining health and burlesquing life are used by the fair sex to the extent that our ladies' newspaper would seem to indicate? It is certainly a marvellous age in its inventive fulness and profusion of arts wherewith an unkindly nature may be assisted and improved. But that the *morale* thus indicated is neither æsthetic, scientific, nor praiseworthy in any sense, is a conclusion in which I imagine most sensible people will concur; whilst the general prevalence of the remark, 'sent safe from observation,' in the advertisements of the vendors of the toilet articles above mentioned, would seem to indicate that the knowledge of their use is a matter not for the many, but the initiated and beautified few.

"Turning to the physiological and scientific aspects of medical by-ways, we may possibly find means to arrive at some conclusion respecting the probable effect of this unauthorised drugging of people, which common observation demonstrates to be of such widespread occurrence and practice. Firstly, let us glance at what, for want of a more suitable term, may be called the æsthetic aspects of those minor by-ways into which popular chemical investigators lead those whose complexions, faces, or figures may demand amelioration at the hand of art. That the beautifying or improvement of the person under certain circumstances is a perfectly legitimate procedure when judged by the common-place rules of society, is a conclusion which demands no evidence by way of support. No one would dream for a moment of disputing the assertion, to come to personal details, that a defacing wart, mole, or wen on the face, capable of being readily removed, without danger, by surgical interference, should be so disposed of. And to take the very common and exceedingly annoying case of a profusion of hairs attaching themselves prominently, say, to some simple skin-growth, and capable of being permanently or even temporarily removed by depilatories, the same remark holds good. Such acts of personal attention need no excuse. On the ground of common personal æsthetics, apart altogether from the freedom of annoyance from marked blemishes of face or figure, the amelioration of such deformities is a bare act of justice to the individual in question. The removal of a blemish is physiologically as defensible a proceeding as the replacement of missing teeth by the aid of the dentist, and in this latter act we find the truest warrant, since, for digestive purposes, the possession of teeth, or their artificial substitutes, is absolutely necessary for the preservation of health. To the replacement of a maimed limb by an artificial one, there can be still less objection. The common ground of expediency, utility, and function, presents us with an unanswerable argument in favour of the work of aiding nature, in so far as we are able, by the devices of ingenious art.

"Very different, however, is the argument which would fain carry these same reasons into the domain of the peruke-maker, and into that of the manufacturer of face-paints and lotions. On what grounds, æsthetic or otherwise, could a change of colour in the hair be demanded or defended? Similarly, on what grounds could we justify the practice of face-enamelling, or the smoothing out of the wrinkles which time writes naturally enough on our brows and faces at large? It cannot be argued that a false eyebrow or curl is as justifiable as false teeth, for the purpose of the latter as aids to digestion is plain enough; whilst the only conceivable ground for the adoption of the former appendages would be an 'improvement in looks'—an avowedly small-minded excuse, and one, in any sense, of doubtful correctness. To the deficiency of want of eyebrows



we become accustomed, as to the whiteness of hair or other peculiarities of *physique*; but if the practice of supplying nature's defects—justifiable enough under certain conditions, as we have seen—is to be regarded as legitimate under all circumstances, the extremes of absurdity to which such a practice may and does lead are readily enough discerned. Admitting the false eyebrow, why should we exclude the 'nose machine' advertised for the charitable purpose, when worn daily (in private), of altering the unbecoming natural style to that of a becoming and, it is to be presumed, fashionable olfactory organ?

"Of the deleterious effects of the continued application of the fashionable lotions and varnishes for the face, medical science is not slow to testify. Few readers can forget the exposures in the famous Rachel case; or the testimony then and at other times offered, to show that such 'preparations' for the toilet are made, as a rule, to sell and not to use. Let Dr. Taylor, in the name of authority, speak concerning the effects of common hair-dyes. 'Cosmetics and hair-dyes,' says the same author, 'containing preparations of lead, commonly called hair-restorers (!) may also produce dangerous effects. I have met,' he continues, 'with an instance in which paralysis of the muscles on one side of the neck arose from the imprudent use of a hair-dye containing litharge.' These hair-dyes, or 'hair-restorers,' are sometimes solutions of acetate of lead of variable strength in perfumed and coloured water. In other cases they consist of hyposulphite of lead, dissolved in an excess of hyposulphite of soda. In one instance, the continued use of such a dye is reported to have proved fatal, and lead was found in the liver, and in one of the kidneys. 'Mr. Lacy,' adds Dr. Taylor, 'has pointed out the injury to health which is likely to follow the use of white lead as a cosmetic by actors.' Doubtless 'preparations' do exist, in which the metal in question is absent; but in any case, the want of certainty as to the composition of the substance, should, in itself, serve as a condition inculcating caution and suspicion in regard to the use of such nostrums."

We may discover in our next that whilst the use of all dyes is unnatural, and whilst most dyes exert anything but a healthy action on the hair, there are several which may be mentioned as less injurious and as less noxious than the compounds commonly sold.

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THE CARE OF THE SICK POOR.—When one considers the daily life of the poor, as it used to be, say two centuries ago, one presently understands that they had no doctoring at all. Neither physician nor surgeon went among them. When they fell ill they were nursed and physicked by women—the *sage-femme* was called in for fevers and all the ills that flesh is heir to; she knew the power of herbs, and had them all tied up in her cupboard, sovereign remedies against everything; for cases of accident, there were bone-setters; but the physician, with the full-bottomed wig and gold-headed cane, did not penetrate the dark lanes and narrow courts where the people lived; there were not even any apothecaries among them to sell them a "poisoned poison;" and there were no surgeons carrying on the "general practice" of the present day. Very likely, in simple cases, the old women's remedies were efficacious; but in cases of children, who require, above all, attention to sanitary laws and fresh air, the mortality must have been very great, while the sum of pain and misery and needless suffering from disease, from sheer ignorance of sanitary laws and right treatment, and the absence of proper appliances, must have been truly frightful.—*Walter Besant.*

## The Family Circle

"The child is father of the man."—Wordsworth.  
 "In bringing up a child, think of its old age."—Joubert.

### THE HEALTH OF CHILDREN.

ONE of our greatest living sanitarians suggests that if the subject were fully understood very few people would venture to meddle at all with a child's mental, physical, or spiritual nature, "lest they should do more harm than good"; but it seems to me that the fate of the next and succeeding generations of the human family would be melancholy indeed were this doctrine of masterly inactivity to gain many proselytes among us.

I believe, however, that the disciples of a certain benevolent apostle of microscopic philanthropy, who taught that "he who makes two blades of grass grow where only one grew before, is a benefactor to mankind," are still far too numerous to permit the march of improvement thus to slacken its progress. On the same principle, it might well be asserted that he who gives to any human organism two healthy minutes, morally, mentally, or physically, where there was but one before, benefits his fellow man; and I trust a vast majority of our readers at least are inspired to such altruistic labour, as opportunity offers, from the first moment they fully realise that just as persons with fairly good eyes and sound limbs enjoy life, on the average, more than blind men or cripples, so (though in a less degree) an individual with highly-trained vision, powerfully-developed muscles, &c., kept in perfect health, is happier, and therefore likely to be better, than are those of inferior capacities for activity and enjoyment.

No intelligent observer can doubt that the various forces of nature do modify the structure and functions of our bodies; and the chief question, therefore, from our present point of view is, whether we can so assist the action of favourable influences, and so protect from the power of noxious agencies, as to promote health on the one hand, and on the other prevent that disturbance of perfect life which has from time immemorial received the name of disease.

No doubt most of us in our childhood have reared from the seed some favourite plant, and as we saw the first frail shoot appearing above the ground, have realised even in our youthful minds, how a few drops less than sufficient water, an hour's too hot sunshine, or the assault of some almost microscopic insect enemy might easily kill the tender germ of our vegetable nursling, or cripple and dwarf its entire subsequent development; perhaps a tiny pebble, if thrust against it rudely, might bend the feeble stem, and so render crooked or deformed the trunk of what would otherwise grow into a stately tree. For my part, I am convinced that the spirit of the axiom, "Just as the twig is bent the tree inclines," is quite as true in regard to human and animal, as it is respecting vegetable organisms; inasmuch that a variation of ten grains more or less of salt or sugar in an infant's daily food, five degrees of temperature in its bath, or a thickness of flannel in its clothing, may make the difference between life and death; aye, even between a hundred years of health and vigour, and half-a-century of feebleness and deformity, to the sensitive organisation of a new-born child.

As the babe develops, other considerations come into play. For example, a curiously fascinating ambition to do



dangerous things safely runs through human nature from the cradle to the grave, and inspires alike the youth who feels impelled to venture on thin ice, about which he has been cautioned, and the Franklins, De Longs, and Livingstones of mature manhood. Perhaps this instinct can never be eradicated, but it may often be so far controlled by unceasing vigilance as to manifest itself chiefly in directions where the penalty of failure is neither death nor permanent disability. The child who, being warned against eating white powders which look like sugar in an apothecary shop, is fired with the idea of trying just how dangerous are these forbidden fruits, may escape from a taste of tartar-emetic without serious injury; but another martyr to the spirit of investigation who finds arsenic carelessly left within his reach, has, like the boy who plays with a toy pistol, or the girl who lights her fire with kerosene, no chance to practically apply the dear-bought wisdom which is as valuable as it is high-priced.

The myriad noxious influences which surround us, and incessantly strive to gain access to our organisms, are often quite as insidious as the white powders which waylay a child in its progress through a drug-store. Some of these, such as the germs of certain contagious diseases, which, as I have long taught, are contemptible in their infinite minuteness, yet terrible in their almost infinite number, should be guarded against exactly as we ought to isolate arsenical poisons beyond all possible access of ignorant children; whilst others, under judicious supervision, may be the subjects of childish experiment, and the sources of such useful information as, for instance, that which so frequently constitutes an infant's first lesson in practical sanitation, and is formulated in the popular adage that "a burnt child dreads the fire."

The daily observation of most careful persons demonstrates that we can often escape mental or physical injury from the diverse inimical forces of Nature with the same ease and certainty as we may avoid being crushed to death by a railway train, if we step aside from the track in obedience to the warning of "look out for the locomotive when the bell rings;" and whilst it is lamentably true that, in a vast majority of instances, our knowledge is too imperfect, and our sanitary knowledge as yet inadequate to secure the desired object, I confess I am at a loss to account for the mood of discontented scepticism which would decry our influence for good because it is less extensive than we wish, or on similar grounds refuse and neglect to exercise such influence for our own and our children's benefit.

Even the ancient heathen philosophers recognised the efficacy of human effort in their maxim, "The gods help those who help themselves." The old Puritans gave the principle a like endorsement in their watchword, "Trust in God and keep the powder dry;" whilst modern agnostics who blindly refuse to see throughout the universe any omnipotence, save that of force and matter, are certainly not behind the thinkers of past ages as respects faith in the free agency of man. So that history and experience combine in teaching us that our present knowledge is quite sufficient, *if wisely and persistently applied*, to vastly improve the health, morally, physically, and mentally, of the next generation of our race.

But admitting that we can favourably modify and improve the infant, the hygienic care of childhood and adolescence may seem to some at first sight a matter of minor interest, yet when we come to consider that age after age the great mundane business of each generation upon our earth's surface is simply to produce and nurture its immediate successor, it becomes obvious that no department of

sanitary science surpasses this one in its importance to mankind.

Again, it behoves every true philanthropist (who seeks the improvement of our race in accordance with the sound republican doctrine of choosing the greatest good for the greatest number) to devote his most powerful energies towards protecting the life, fostering the growth, and promoting the fullest development of our fellow creatures during the first fifty years of their existence, without omitting aught which can aid in prolonging the life and averting or postponing the decline of those who, having passed the period of their greatest vigour, must, with each advancing year, become less actively useful and more passively burdensome to society at large.

Hence, it appears that the best possible hygienic management of infancy, childhood, and youth, that most thoroughly adapted to season and climate at any time and place, is doubly imperative, first, because such sanitary precautions are most effectual during adolescence; and secondly, because by their successful employment we secure a nation of healthy, vigorous minds, in sound, well-developed bodies *during the prime of life*, when the public benefit from their activity is far greater than during the period of decay.

It is not my purpose, in the present brief paper, to enter into details respecting such sanitary management, but I do wish to urge most earnestly that children should be taught some rudiments of hygiene, as is done in France at a very early age. This might be commenced with pupils in the primary schools, and if systematically pursued by judicious instruction in those of the higher grades, would not only do much to ensure the hourly individual and personal care, without which our greatest earthly blessings can rarely be secured, but would also largely contribute to form such a wise and enlightened public opinion upon sanitary matters as is absolutely necessary, in a republic at least, to perfect the discharge of that highest duty of governments, the care of public and of private health.

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I HOPE the day will soon come when it will no longer be a slur on a good woman, old or young, to say, "She thinks a great deal of dress; she attaches enormous importance to æsthetics." Whilst it remains a good motive to give others pleasure and spare them disagreeable shocks, the rule must hold good in every department of life. I hope the day will soon come when it shall be a recognised duty to conceal what is offensive—when slight deformities of limb and skin shall be avowedly disguised by art; and great and startling deformities shall cease to disgrace our public streets, and, alas! to repeat themselves, through the nervous shock, to delicate persons. It is one of the duties of life to grease the wheels on which we drive, as far as ever that is consistent with other duties, and most people must judge for themselves how far that is.—*Mrs. Haweis, "Art of Dress."*

A CASE under the Public Health Act of considerable importance was decided at the Nottingham County Court on the 15th inst. The outgoing tenant of a certain house allowed another person to take it in the belief that it was clean and healthy, whilst, in fact, scarlet fever had occurred there, and the house had not been disinfected. The consequence was that the plaintiff's son caught that disease, and the defendant had been heavily fined by the magistrates for neglect. The judge held, however, that the defendant was not guilty of any offence, and that there was no cause for action. A verdict for the defendant, with costs, was therefore given.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

By A PHYSICIAN.

No. VI.—HEALTH-RESORTS DESCRIBED (*Continued*).

**CALLANDER**, in Perthshire, is distant from London 425 miles, and can be reached either from Euston or St. Pancras, *viâ* Carlisle and Stirling. From King's Cross the route is *viâ* Edinburgh and Stirling. Callander is situated in the midst of some of the most enchanting scenery of the Highlands, and hence forms a convenient centre for excursions. An easy coach drive takes the tourist to Loch Katrine, and thence by steamer and boat he reaches Loch Lomond, or *vice versâ*. For the holiday-seeker, jaded and tired, and who desires fresh mountain air and walking tours, Callander may be thoroughly commended. Hypochondriacs, those troubled with sluggish livers, and those who exhibit a tendency to lung complaints, without being actually ill, will find such a life and air as Callander presents bracing, and yet sufficiently mild to be thoroughly agreeable. Fares from London: 63s., 49s., 35s. 4d.; returns: 118s. 6d., 91s. 11d., 67s. 2d. Hotels: Dreadnought, M'Gregor's. A very fine Hydropathic Establishment also exists.

**CARNARVON**, the county town of its shire, 246 miles from London, situated on the Menai Straits. A sandy beach exists, and the bathing is excellent. Air, bracing, but mild. Population about 10,000. Reached by London and North-Western Railway, or by Great Western Railway. Hotels: Royal and Sportsman. Fares: Return, 73s., 54s. 3d., 44s. 10d.

**CHANNEL ISLANDS**.—The prevailing character of the Channel Islands is their humidity or moistness. The fresh breezes to which they are subject, in some degree counteract their moist character. The autumn season is particularly mild and agreeable, and is lengthy in its sojourn; and the winter's cold is not great, nor the summer heat excessive. The spring is apt to be cold and boisterous. From a health point of view, the Channel Islands appear to be favourable residences for sufferers from chronic disease. Those who are convalescent from acute diseases of the lungs also benefit from a stay here, and in bronchitis the air is also agreeable and salutary. For old persons and young children, these islands seem specially adapted. Sufferers from spleen disease, and from irritation of the bowels, experience benefit from a stay here. For Australian and Indian invalids, the winter season is specially suitable. The best time for residence is from August until the end of January, and it has been noted that a change from one island to another has often aided a cure in cases of disease. Those who should shun the Channel Islands are sufferers from chronic rheumatism and from liver disease; dropsical cases, and those liable to hæmorrhage from the lungs are also unsuitable, and for hypochondriacs, as well as for most female diseases, the Channel Islands are not to be recommended. Consumption is said to be as common among the inhabitants as in most other places.

**GUERNSEY** is at once the most westerly and the most exposed of these islands. It is nine miles long by three broad. Here the spring is warmer than in the West of England. About 164 wet days occur per annum; but the rainfall is mostly at night, and very few wholly rainy days exist. A large amount of ozone exists in the atmosphere from September to February. St. Peter's Port is the chief town. From Southampton, Guernsey is 113 miles, and from Weymouth 75 miles. Hotels: Royal Yacht Club, Royal, Hotel de l'Europe, Cole's, &c. Return fares from Paddington, *viâ* Weymouth; or Waterloo, *viâ* Southampton, 48s., 38s., 30s.

**JERSEY** is a larger island than Guernsey, from which it is distant 30 miles. The chief town is St. Helier's, on the south side, in St. Aubin's Bay. The winter temperature is lower, and the summer temperature higher, than that of Guernsey. St. Aubin's is regarded as more suitable for invalids than St. Helier's, the former being less foggy and humid. There are good sands. Hotels: British, Bristol, York, Union, Europe, &c.

**ALDERNEY AND SARK**, are both rarely resorted to by invalids or visitors. The climate resembles that of the other islands; although some authorities regard Alderney and Sark as less relaxing than Jersey, and as dry and more bracing than Guernsey.

**CHELTENHAM**, Gloucestershire, lies in a valley of the Cotswolds, and is situated on the Chelt, which flows, in turn, into the Severn. Cheltenham is 121 miles from London, and eight miles from Gloucester. The streets are wide and airy, and the trees form a pleasant shelter. The main part of the town lies in a hollow, and is 195 feet above sea-level. The summer temperature is rarely over 80°, and the winter below 21°. The rainfall is about 33 inches, and there are about 110 rainy days per annum. The general health-characters of Cheltenham have reference to the atmosphere and to the mineral waters, for which the town has long been famed. The atmosphere is moist and somewhat relaxing. Residence here benefits asthmatic patients, and others who suffer from bronchial attacks, and to whom the moist climate is therefore welcome. The mineral waters vary in character; and it is well to advise those who purpose using them to distinguish between the aperient and tonic waters of this place. The Cambray spring is strongly chalybeate—*i.e.*, contains iron—all the other cold-springs being saline and aperient in character. The Royal Old Wells contains chloride of sodium (common salt), chlorides of lime and magnesium, and sulphate of soda. In the Montpellier Spa a little oxide of iron and iodine compounds are found. The Pittville Spring has a large amount of silica. At the Montpellier Baths warm and cold bathing, and medicated baths of all kinds can be had. Cheltenham has been famous since the cure of George III. by the waters of the Royal Old Wells. The season lasts from the middle of April to the beginning of October. The waters are calculated to relieve diseases of the liver and spleen; hence many tropical invalids pass the season here. In gout and rheumatism the waters are also useful; and in affections associated with a full or plethoric habit of body they are also useful. Certain skin diseases—and mostly those which are relieved by aperients—also benefit from the Cheltenham waters; and in dyspepsia, accompanied by torpid action of the bowels, the waters are found beneficial. For many female complaints, Cheltenham is a favourite resort. Return fares from Paddington, 34s. and 26s. Hotels: Plough, Fleece, Queen's, Lamb, Royal, George, Belle Vue, &c. Population about 45,000.

**CLACTON-ON-SEA**, in Essex, 70 miles from London, and eight from Walton-on-the-Naze. Population about 3,000.



The air here is bracing, and yet mild enough to suit delicate persons. Chest complaints of mild type improve here, and rheumatic patients, with ordinary care, will also benefit from the air. For weakly and scrofulous children this place is well adapted. Bathing easy. Return fares from Liverpool-street: 20s., 16s., 12s. 8d. Hotels: Royal, Osborne, Imperial.

**CLEETHORPES**, in Lincolnshire, 158 miles distant from London. Population about 3,000. Season, June to September. Beach sandy and bathing good. Grimsby is two and a-half miles distant. Climate bracing. Hotels: Dolphin, Cliff, Victoria. Route from London, *via* Midland Railway, through Nottingham and Lincoln. Return fares from Nottingham: 21s., 8s. 6d.

**CLEVEDON**, Somersetshire, 134 miles from London, on the Severn, in the Bristol Channel. Air moist and climate mild; bathing somewhat difficult, as beach is muddy. Ilfracombe is 60 miles distant. This place suits consumptives and chest troubles generally. Population about 5,000. Hotels: Bristol, York, Royal, Rock House. Return fares from Paddington: 39s. 6d., 30s. 3d.

**CLIFTON**, Gloucestershire, 126 miles from London. Population about 30,000. The town is built on the sides and top of a limestone hill, about one mile from Bristol, to which visitors are conveyed by the Great Western Railway. Clifton is a typical winter resort, its climate being mild and genial. About 169 wet days occur per annum. The rainfall is about 32 inches; and the mean winter temperature about 39-91°. The lower part of the town is less bracing and milder than the upper part. In summer the more elevated parts are cool and agreeable. The "Hot Well" is a famous spring, yielding water about 75° F. in temperature, and containing small quantities of lime and magnesia. It is rarely used medicinally. Hotels: Clifton Down, Queen's, Stork, Cumberland Steam Packet. Return fares: 36s. 9d., 28s.

**COLWYN BAY**, Carnarvonshire, is 220 miles from London, and boasts a mild climate well adapted for those with delicate chests, rheumatism, &c. Bathing good. Hotels: Colwyn Bay, Pwllcrochon. Return fares (from Euston or Paddington): 64s. 6d., 48s. 3d.

**COWES**, Isle of Wight, has a bracing air, which, however, combines mildness with its invigorating qualities. From Southampton Cowes is 14 and from Portsmouth 12 miles. Bathing good. Those in want of sea air of a not too bracing kind will find Cowes a suitable resort. Population about 9,000. Hotels: Gloucester, Aris's, Globe, Chester House, &c. Return fares: 30s. 8d., 22s. 8d., 15s. 8d. Routes, from London-bridge or Victoria, and from Waterloo *via* Southampton.

[We have received a communication from Mr. Jones, Medical Officer of Health of Aberystwith, in which he complains, in language of somewhat more forcible kind than seems necessary under the circumstances, that full justice has not been done to the attractions of that watering-place in *HEALTH*, No. 10. Mr. Jones tells us that hills intercept the north-easterly and easterly winds. In the article it was said, we should observe, that the town is exposed to the east and south-east. The mortality, which we put at 18 per 1,000, Mr. Jones says is 17-45, and the population is 7,133—corrections which we are glad to give effect to, and for which we trust our readers are devoutly thankful. We prefer to back our former statement that "the rainfall, as a rule, is heavy." We are pleased to hear that the climate may be described by a resident as temperate—although, in making this statement, Mr. Jones is somewhat at variance with good authorities.—Ed. "H."]

## Our Bookshelf

"Reading maketh a full man."—Bacon.

### TWO HANDY BOOKS FOR EVERY HOME.

*Notes from Sick Rooms.* By MRS. LESLIE STEPHEN. (London: Smith, Elder, & Co.)

*A Manual of Nursing, Medical and Surgical.* By CHARLES J. CULLINGWORTH, M.D. With eighteen illustrations. (London: J. & A. Churchill.)

WHILST it is perfectly true that no amount of theoretical instruction can make a woman a skilful nurse, it is equally true that mere rule-of-thumb experience, without a knowledge of the science or principles of nursing, is in itself insufficient to qualify a candidate for satisfactory sick-room attendance. We are beginning to recognise that what is true of most, if not all, trades and professions, holds good of nursing. A lad might spend years over the theory of watchmaking, and in the end be unable to take a watch to pieces, or reconstruct it when its parts had been separated. Practice, or the "art," must go hand in hand with knowledge, or the "science," of any profession. Especially true is this of the duty of nursing the sick. There are very many duties to be performed in a sick-room, for the proper discharge of which a knowledge of reasons and conditions is necessary. The intelligent nurse is not merely able to do her practical work, but knows why that work should be done in one way and not in another. She has mastered the science of nursing, and, instead of merely knowing empirically that certain results follow certain causes, she is enabled to understand these causes, in part at least, and in some measure to anticipate their advent. The day of the Sairey Gamp and Betsy Prig order of sick-room attendants is past and gone—thanks, amongst other things, to the spread of knowledge through the publication of books like those which lie before us.

Mrs. Stephen's little book is, in its way, a perfect little manual of sick-room experience. It is a book we should like to see in the hands of every mother, and, indeed, of every girl who has any conception of the duties of womanhood. It must not be thought that either of our authors write for trained nurses alone. Mothers may very profitably enlarge their store of domestic experience by a perusal of the pages of Mrs. Stephen and of Dr. Cullingworth; and there is much information given in both manuals which should prove useful in every household. The nature of Mrs. Stephen's wholesome advice may be gleaned from the following extract:—"One imperative duty of all those in attendance on the sick is that they should be cheerful—not an elaborate, forced cheerfulness, but a quiet brightness which makes their presence a cheer, and not an oppression. It may seem difficult to follow this advice, but it is not. Cheerfulness is a habit, and no one should venture to attend the sick who wears a gloomy face (doctors themselves might often do many less essential things than pay heed to Mrs. Stephen's views on this head). The atmosphere of the sick-room should be cheerful and peaceful. Domestic disturbances, money matters, worries, and discussions of all kinds should be kept away." Mrs. Stephen's remarks (p. 5) on crumbs in sick beds are highly *apropos*. "The torment of crumbs should be stamped out of the sick bed as if it were the Colorado beetle in a potato-field," says our authoress; and her directions regarding the best modes of preventing these torments of the sick, and of making



the patient's bed, are very lucid and plain. Few lay nurses know how to wash and dress a patient, and how, at the same time, to avoid any risk of chill. To all such, we commend Mrs. Stephen's remarks (pp. 13-16). Her advice regarding brushing the hair, to use a comb with large teeth, to hold the hair near the roots with one hand, to touch the hair lightly, &c., are all excellent hints, calculated, when practised, to relieve the invalid. The sections dealing with "Visitors," "Food," "Nerves," &c., are all excellent. "The quiet and calm which should make the foundation of a sick-room life," says Mrs. Stephen, "are nowhere more necessary than when the patient becomes hysterical. . . . The nurse should never speak to a person in hysterics, nor look at her. . . . There must be no gaiety and no reproof." These are words of wisdom, and only reflect in their aptness the entire spirit of this charming little work.

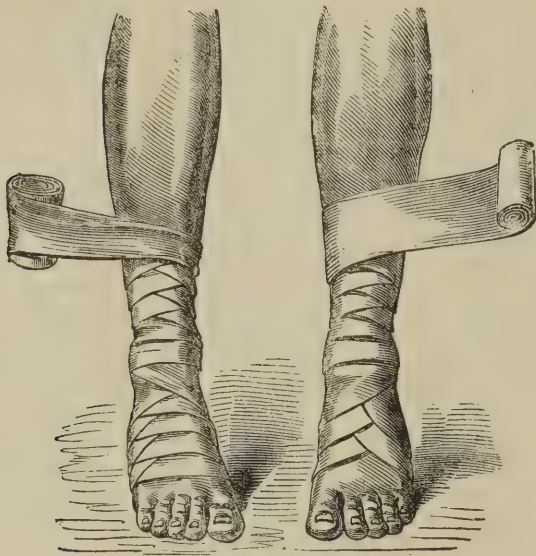


Fig. 1.

Dr. Cullingworth's book is larger, and of more ambitious type than that of Mrs. Stephen. It deals with a wider field of sick-room experience, and constitutes, in fact, a very complete manual for the nurse. In this volume one may learn all details of sick-room life, from the disposition of furniture and the changing of linen, to sick-room cookery, administration of medicine, baths, enemata, the treatment of emergencies, bandaging, operation-details, and the care of the fever-patient. The work is a complete *vade-mecum* for the nurse or mother, and, in its way, is a very full guide to all details of household medicine and surgery. On reading Dr. Cullingworth's pages, we cannot fail to be struck by the very apt manner in which, within small compass, he has succeeded in treating a vast number of important details. An important feature of the book consists in its illustrations, some of which we here reproduce. The section on bandaging, which our figures illustrate, becomes highly interesting, since, after a little practice, any one may become tolerably skilful in this highly important part of domestic surgery. For example, a clear description is given by Dr. Cullingworth of a leg bandage. "A roll," says the author, "6 yds. long and 3 in. wide, is to be held in the right hand for the right leg, and in the left hand for the left, the bandager standing in front of the limb. One or two turns are carried round the foot at the root of the toes, and the bandage, the end of which has thus been secured, is continued towards the instep, being reversed at

each turn. When the instep is covered, the bandage is carried twice round the ankle in the form of a figure of 8, and is then continued up the leg, each turn being reversed (see Fig. 1) until the last two or three, which are carried straight around the leg to finish off the bandage securely below the knee." To make a large arm sling, we take a large handkerchief folded once cornerwise, or a triangular



Fig. 2.

bandage. One end is passed round the neck on the sound side, then the other end is allowed to hang down in front of the chest. "Bend the arm across the chest in front of the handkerchief, with the palm against the chest; bring up the end of the handkerchief which is hanging down, and carry it over the shoulder on the affected side, tying it to its fellow at the back of the neck. The arm will thus be supported from wrist to elbow on the middle of the handkerchief. Draw the point forwards around the



Fig. 3.

elbow, and fasten it to the front of the sling with a safety-pin (see Fig. 2). The useful plan of strapping a limb with plaster is also well shown by Dr. Cullingworth (Fig. 3). The plaster is cut in strips "an inch and a half wide, and long enough to wrap over six inches, after passing once round the limb." All hair should be shaved off before applying them, and each strip should overlap the last one applied, "to the



extent of one-third of its breadth. The centre of the strip, well warmed by passing it quickly through the flame of a spirit-lamp, should be first applied to the back of the leg, the ends being brought round and crossed in front. In the case of joints (see Fig. 3), the plaster should be spread on leather, and the strapping should reach some distance above and below the joint."

Besides serving as a *multum in parvo* for the home, Dr. Cullingworth's little book should find a place in the traveller's knapsack, in the ship captain's or yachtsman's locker, and in the pocket of all who travel far from medical aid or surgical help.

## Our Exhibition Reports.

"There is an education for us all in the sight of the ways and works of others."—*Anon.*

### THE NATIONAL HEALTH SOCIETY'S EXHIBITION.

(Concluding notice.)

CLASS III. (*continued*).—The important subject of water filtration was brought under notice by several exhibitors, notably by the Silicated Carbon Filter Company, Church-road, Battersea (Stand, No. 61), and Mr. P. A. Maignen, 22, Great Tower-street. Some of the chief essentials of a good filter are that the filtering medium should be in a solid form, so that it can easily be cleaned by scrubbing, and that it should contain no sponge or other substance liable to become decomposed or to harbour animalcules. These conditions are certainly fulfilled in the Silicated Carbon Filters, which were shown here in nearly every form of design, from a two-inch filtering pipe, to be fitted into the cistern, to a small pocket-syphon for the use of travellers. Mr. Maignen is the inventor of the well-known "Filtre Rapide" which he makes, and exhibited here in various sizes and degrees of price. He claims that the qualities which distinguish these filters above all others are the following:—They can be taken entirely to pieces, and thoroughly cleansed; the filtering medium can be thrown away when exhausted, and replaced by fresh in a few minutes at a most trifling cost; and the filter removes not only organic matter in suspension, but also mineral and gaseous contaminations, and it softens water. The Spongy Iron Domestic Filters Company, 22, New Oxford-street (Stand No. 66), use metallic iron for the purpose of purification of water, a filtering medium which, it is said, will render even the dirtiest Thames water soft and drinkable. Messrs. F. C. Calvert & Co., Bradford, Manchester, are exhibitors (Stand No. 67) of carbolic acid, and preparations for medicinal, surgical, pharmaceutical, manufacturing, agricultural, disinfecting, and toilet purposes. Messrs. Houghton & Co., Sloane-terrace (Stand No. 68), are the inventors of a fat interceptor for scullery sinks, of a similar interceptor for solids, and of an improved gully for bath-waste and sink. This latter has gained a prize at the hands of the judges in this class, and its advantages are stated to be that it is self-cleansing, ventilates the pipe and trap, and forms a drain for the area. Messrs. C. Kite & Co., Chalton-street, Euston-road (Stand No. 69), are makers of exhaust roof ventilators for public halls, billiard-rooms, factories, &c., and of wall inlet ventilators, adapted more particularly for hospitals and workrooms. Messrs. H. W. Cooper & Co., 28A, Upper George-street, Edgware-road (Stand No.

70), exhibit glass revolving and glass venetian ventilators. Messrs. W. Woollams & Co., 110, High-street, Manchester-square (Stand No. 71), are makers of some very pretty wall and ceiling papers, which are guaranteed to be free from arsenic, and of embossed flock papers and dado decorations, which are likewise innocent of this powerful poison. Mr. Henry Conolly, 53, Hampstead-road (Stand No. 76), showed, amongst other things, samples in action of his patent valve closet, in which the overflow arm is always flushed every time the closet is used, and the trap always sealed; and of another closet in which the basin is trapped in itself, and cannot be syphoned. The exhibits of Messrs. Parnell & Son, 15A, Kensington Place, Westminster (Stand, No. 77), included a syphon water waste-preventer, which is adapted for sanitary purposes where a fixed quantity of water is required at each operation, and which ensures a rapid flow of flushing water in proper quantities. Messrs. Joseph, Davis, & Co., Fitzroy Works, Kennington Park-road (Stand No. 98), exhibited a new thermometer, intended to be fixed to the oven door. It is scaled on the left side with the correct temperature at which various bakings should be put in, and on the right side the temperature at which the heat of the oven must be maintained. The actual scale of degrees marked by the mercury is engraved on the tube itself. Its handiness is at once apparent, as it virtually contains the instructions of the cookery-book, opened at the right page, enabling the cook to refresh her memory at the same time as registering the heat denoted. The thermometer is fitted with chambered unburstable tube, mounted on copper scale, and made rigid by a cast-iron frame, with protection-tube for the bulb, which is passed through the oven door and fixed with a strong screw and nut at the back. They also show another useful little invention, called a "sewer-gas detector." It consists of two stoppered bottles, one containing prepared test-paper, &c., the other a solution for sensitising the papers. The method of using is to moisten with a diluted solution of the liquid one of the test-papers, and place it where the escape is suspected. If sewer-gas is present, the paper becomes discoloured. Messrs. Jeffery & Co., 64, Essex-road, Islington (Stand No. 105), send specimens of non-arsenical wall-papers of most artistic design, made in every degree of quality and price; and Messrs. Howard & Co., Berners-street (Stand, No. 106), samples of parquet flooring and other wood decorations. Messrs. Edgar Aldous & Son, 18, Queen's-road, Peckham (Stand, No. 108), are the patentees of a hot and foul air extractor of a novel and, as it appeared from the models exhibited, effective description. The exhaust consists of two concentric shafts. Between the inner and outer shafts is a space for foul air to pass upwards. In the inner shaft there is a conical bottom; directly above are apertures for the wind to escape into the outer shaft. The head has eight apertures to receive the wind when blowing from any point; it is then taken into a concentrating tube set into the inner concentric shaft, whence it travels down and round the conical bottom, makes its way through the apertures in the inner shaft into the outer shaft, converts itself into an up current, and forces the foul air from between the two concentric shafts up to the top and out of the escape. By this means a down draught is converted into an up current. Mr. T. P. Cook, 71, Hatton-garden (Stand No. 109), was awarded a medal for his combination cinder-bin and sifter. It enables cinders to be sifted and removed for use, and the dust and ashes stored until they can be removed, which is effected by lifting up a sliding door at the back. The appliance runs on wheels, and is easily removable. The other exhibits in Class 43 included a beautifully-arranged



case for the display of Messrs. Pears's world-renowned soaps, a similar show by Messrs. F. S. Cleaver & Sons, a fragrant collection of Messrs. Rimmel's toilet preparations, and a series of diagrams, sent by Mr. H. Carr, 21, Cedars-road, Clapham-common, showing that the same pattern wall-papers can be produced with as good an effect, without the aid of arsenical colours, and without the use of these dangerous pigments.

**CLASS IV.—APPLIANCES FOR THE SICK-ROOM, HOME-NURSING, AND HOME EDUCATION.**—This, although not the largest, was one of the most interesting sections of the exhibition, and included several novel appliances for nursing and the care of sick patients. The North of England School-Furnishing Co., Darlington (Stand, No. 19A), showed their improved school-desks and seats, with backs so designed as to prevent spinal curvature—a far too common deformity nowadays. The height and depth of the seat, with the support for the feet, are made according to the length of the legs (below the knees) and the length of the thighs; the convex lower part of the back of the chair corresponds to the concavity of the lumbar curves, and supports the lower part of the spine; whilst the convex parts of the shoulders rest on the concave uppermost part of the back of the chair; and as the desk is movable in a horizontal direction, it can be brought within a distance of one or one and a-half inches from the front of the body, so enabling the pupil to write without changing the good or normal position of the body. Mr. H. J. Dalton, Bishopsgate-street Without (Stand No. 41), exhibits his self-adjusting invalid bedstead, which has been used with very good results at the London Hospital and other institutions. The apparatus is of an extremely simple character, and consists of a cord and pulley, by which a movable platform in the centre of the bed is lowered, and, the pan being placed upon it, is raised again by means of balance weights. In order to remove the pan, the platform is again lowered, and it then ascends gently into the aperture, where it is quickly and easily fixed. The patent comprises also a head-lift, which allows of the patient changing his position without being touched by the attendant. The first-named contrivance is, of course, specially adapted for bed-ridden patients, or those who can be moved in and out of bed only with great difficulty and risk. Messrs. Chorlton & Dugdale, Blackfriars-street, Manchester, exhibited (Stand No. 46) their patent spring mattress and invalid couches. The former is a very ingenious and practical invention, allowing perfect ventilation and rendering any harbouring of insects or infectious particles absolutely impossible. Withal it is comfortable and economical. Messrs. Pocock Brothers, 235, Southwark Bridge-road (Stand No. 47), are the manufacturers of a tubular water and air bed, which deserves a word or two of praise. The bed consists of a series of cylinders, which may be filled either with air or water, or both. Every cylinder is separate and connected by a linen tick, and when it is required to raise or depress the body of the patient all that is necessary is to exhaust or fill with air one or more of the cylinders. The tubes, of course, can be filled either with hot or cold water, and as there is a space between each cylinder, the bed drains itself, as it were, and may thus be occupied by a perfectly helpless patient, without the fear of his contracting bed-sores. Messrs. Pocock also show a model of a padded room for lunatics, the walls of which are made of a series of panels, behind which a perfect system of ventilation can be kept up. Some capital hygienic boots and shoes, made to be sold at a price within the reach of the working

classes, were also exhibited by this firm. Another bedstead of somewhat novel construction was shown by Mr. T. W. Sidolph, Dartford, Kent (Stand No. 110). The principle adopted is that of a sacking bottom, in place of the ordinary mattress, but instead of the canvas bottom being attached to the bedstead by laced cords, it is double and endless, and made to revolve round bearers placed at the head and foot of the bed, much on the principle of a round towel. Tension may be kept up by tightening the canvas from time to time, the elasticity imparted being almost equal to that of a spring mattress. Not the least important of the advantages of this bedstead is the facility with which the sacking can be moved from one part to another, or detached altogether from the iron frame when soiled. Mr. T. Hansell, of St. Albans (Stand No. 60), showed a patent bed table, which, from the simplicity of its construction, attracted a good deal of favourable criticism. The table folds back to the top of the head of the bed, and forms a convenient night shelf, and when drawn down can be fixed at any angle so as to serve as a reading or writing desk. Messrs. Jas. Allen & Son, 21, Marylebone-lane, Oxford-street (Stand No. 113), were exhibitors of portable Turkish hot-air and vapour bath apparatus, which may be used under a chair or in a bed, or may be applied locally.

**CLASS V.—INDUSTRIAL DWELLINGS AND COTTAGE HYGIENE.**—This was a very small class, numbering only one or two exhibits, none of which call for particular notice in our columns.

**CLASS VI.—HEATING, LIGHTING, AND COOKING APPARATUS, FUEL APPLIANCES.**—This section is mainly devoted to the exhibition of kitchen and other ranges and fire-places. The exceptions included the stand (No. 40) of the Vertical Feed Sewing-Machine Company, 52, Queen Victoria-street, whose manufacture is sufficiently indicated by their title. The essential point in which their machines differ from all others, is that the work is fed from the upper part of the machine, instead of from below. An electrical motor has been designed and constructed for this machine by Messrs. M. Theiler & Sons. It is fed by a Higgins' bichromate battery, which gives off no odour and requires but little attention. Messrs. Benyon & Cox, Torquay (Stand No. 78), are the makers of a handsome and effective gas-heating and ventilating stove, and of a breakfast stove, which, it is claimed, will cook thirty substantial breakfasts at a cost of twopence, so small is the consumption of gas. Mr. W. H. Stephenson, M.D., Ainsworth-street, Blackburn (Stand, No. 79), obtained a prize for his gas-heating water-coils, an arrangement of tubes placed one over the other, and connected at the ends by smaller tubes for the water to circulate through. The gas jet acts directly on the lower tube, and the fumes are carried off by a flue, and it is stated that twelve and a-half feet length of these tubes is equal in radiating surface to fully eighty feet of the ordinary four-inch water-pipe. Amongst the few novelties which we noticed in this class was the mitrailleuse burner, the invention of Messrs. Browne & Co., 186, Piccadilly (Stand, No. 87). It is made for lamps burning kerosine and crystal oils, and the wick, instead of being in one or two broad pieces, consists of sixteen small circular wicks, raised or lowered by means of a single key. The consumption of oil is stated to be no more than that of an ordinary duplex burner, and the light is certainly much superior. The Coalbrookdale Company (Limited), 43, Holborn Viaduct, exhibits (Stand No. 83) some kitchen and parlour grates designed for the consumption of anthracite smokeless coal, the "Kyrle" grate having a very handsome and cleanly appearance. This



Company obtained a silver medal at the Smoke Abatement Exhibition, and were also well forward in the prize list here. Kitchen ranges were exhibited in abundance by all the well-known makers, including the Eagle Foundry Company, 68, Fleet-street; Messrs. Underhill & Company, Upper Thames-street; the General Gas Heating and Lighting Apparatus Company, 66, St. Paul's-street, New North-road; Messrs. Brown & Green, Finsbury-pavement; and Mr. T. J. Constantine, 61, Fleet-street.

CLASS VII.—AMATEURS.—This section, one of the most interesting in the whole building, consisted of inventions by amateurs relating to any of the classes in the exhibition. In the Ladies' Gallery, Mr. Henry Barron, 5, West End-lane, Kilburn, had a model of a ladies' toilette and refreshment car for perambulation, containing lavatory, toilette arrangement, and tea and coffee department. Mr. W. John Almond, 9 and 10, Little Britain, showed on the adjoining stall the "Eureka" stocking clasp, an ingenious contrivance, which possesses all the simplicity of a garter with the hygienic advantages of a suspender. Mrs. T. Taylor, of Aston Rowant, Tetsworth, Oxon, exhibited a complete set of infant's first clothes. Each article fastens in front, so that it is unnecessary to turn the child about when dressing it; pins, those fruitful causes of infantile torment, are entirely dispensed with; and an elastic body belt to be drawn over the feet takes the place of the ordinary binder. Miss M. King, Old Trafford, Manchester, is also the inventress of a new form of baby clothes, which are so cut that if they are laid in the right order on the pillow or lap the baby can be dressed entirely without being moved, or having its arms twisted into the sleeves, which is so often carelessly done before the joints are strong. Nothing has to be put over the head, nothing fastens at the back, and there are no shirt sleeves. Mrs. M. A. Baines exhibited an "elastic zone," or infant's belt, a substitute for the roller and stays; and Mrs. Harringham, 22, Bedford-square, invited the attention of visitors to a display of infants' garments made by the Co-operative Needlewomen's Society, 35, Brook-street, Holborn. Perhaps the most suggestive exhibits brought to the notice of the public were a couple of models lent by Mrs. Buckton, 27, Ladbroke-square. One was an exact copy of a working man's house in Leeds, built about fourteen years ago and let at a rent of 4s. 6d. per week; the other a model of a house of the same class built in accordance with sanitary laws, and constructed in conformity with the Leeds Building Bye-laws, which is let at a profit, at a rental of 5s. 6d. a week. The former contains thirteen serious sanitary defects, amongst which are leakage of drain pipes, escape of sewage matter through the flag stone of the cellar floor, and the poisoning of the food by the escape of the sewer gas into the cupboards in which it is kept. Mrs. Buckton also lent a number of other most interesting models and drain pipes, cisterns, and grates. These, with diagrams, served to illustrate her lectures given last December to the teachers and elder scholars of the Leeds Carlton Hill Board School. Mr. Noble Smith, F.R.C.S.E., 24, Queen Anne-street, Cavendish-square, and Mr. M. Latham, 23, Norfolk-street, Park-lane, both sent models showing the risks which children run of contracting curvature of the spine owing to the defective make of most school furniture, and how this serious evil may be averted. Models of the best descriptions of hospital and sick-room appliances were lent by the Lady Superintendent of the Victoria Hospital for Children, and by Dr. Steele, of Guy's.

Having concluded the enumeration of the classes in this most interesting exhibition, it only remains for us to congratulate the Health Society on the remarkable success

which has attended their efforts, as proved not only by the comprehensive character of the various exhibits, but by the large daily attendance of visitors; and to express a hope that a work so well begun may be continued annually. The results which must inevitably attend such well-directed efforts to improve the sanitary conditions of the daily life of every class of the community are destined, beyond doubt, to have a most important bearing, not only upon the national health, but upon the national happiness and the national character.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTERS TO THE EDITOR.

### COLD BATHS.

Liverpool, June 30, 1883.

SIR,—Referring to Mr. W. Mattieu Williams' remarks in your issue of the 15th instant relative to shower-baths and dizziness, it is true, with respect to "cold baths," that what one person may indulge in with impunity would, owing to difference in constitutions, be highly injurious for another.

I can fully endorse his statement as to the effects of a cold shower bath allowed to fall directly upon the head either in the morning or after a swim, as before I discovered the cause of the sensations he mentions, by observation and experiment, I suffered severely from such headaches for two or three hours after indulging in this practice.

It is generally regarded by ordinary bathers that it is a necessity to first wet the head by a dive, otherwise a severe cold will follow the neglect of this precaution. Speaking for myself, I find that I can jump into a cold bath every morning, even in winter, and have a good dip without wetting my head in the least, deriving more benefit from it than were I to first immerse my head. Another advantage is that in winter I do not suffer from colds in the head, which I used to frequently catch through leaving my head partially wet so as to enable me to reduce it to something resembling order, and then rushing out of doors shortly after into the cold morning air on the way to the city.—Yours faithfully,

SAML. HY. WHITE.

[Our experience of cold bathing, practised at home all the year round, is that it is not needful to wet the head at all. The invigorating effects of the morning bath are felt independently of any attention being paid to the head. As a matter of fact, many persons who suffer from headaches would obviate their misery if, in respect of baths, they kept the head dry.—EDITOR.]

### HOW TO AVERT THE DANGERS OF "PUFF AND DART."

SIR,—I note in No. II. of your journal, a paragraph concerning the above game. May I suggest that the danger of sucking the dart into the throat would be entirely avoided by the simple expedient of riveting a bar across the mouth-piece of the tube, or by soldering in a little metal, or other, cross. The only difference would be that the dart would have to be sucked into the tube from the muzzle end, instead of loaded at the breech.

If this suggestion be the means of preserving the pastime of



"Puff and Dart," and rendering it safe, I shall be only too glad for the sake of all "Puffers and Darters."—Yours faithfully,

C. F. CORLASS.

### RATIONAL FOOD.

SIR,—Your correspondent "Surgeon," in No. 8 of HEALTH, informs us, "only those who can afford meat ought to take it, since life, and health, and strength, can be supported without flesh meat." The very serious question is, who can afford to take a food that is, as the *Lancet* maintains, the cause of "many, if not most, of the ills to which highly civilised and luxurious meat-eating classes are liable." Who can afford to be ill? Of all scientific inquiries, this question of human food is the most important, as health depends much upon good food.

Dr. Lyon Playfair, a reliable and painstaking investigator, shows that in order to obtain the proper daily supply of *flesh-forming* food for one week (28 ozs.) you must buy respectively:—

	s.	d.
147 oz. butcher's meat, costing .....	6	1
93 " cheese " .....	3	0
200 " flour " .....	2	1
341 " bread " .....	2	8
175 " oatmeal " .....	1	4
127 " split peas " .....	1	2

In like manner, in order to obtain the equivalent of *heat-giving* food required for a week's nutrition of an adult, you must purchase—

	s.	d.
416 oz. butcher's meat, costing .....	17	4
224 " cheese " .....	7	0
616 " potatoes " .....	2	9
298 " bread " .....	2	3
190 " flour " .....	2	0
221 " split peas " .....	1	10
183 " oatmeal " .....	1	4

So that it amounts to this:—If we desire, in summer, to add flesh to our bones, at a reasonable cost, meat is both very expensive and very inferior for that purpose, in comparison with more nutritious, more healthy, and far less expensive foods. Should we wish, in winter, for heat, meat stands very low in the scale for that purpose. Indeed, the great virtue in butchers' meat has yet to be found out. Credulity alone attaches any importance to it.

A pound of steak, for which twelve or fifteen pence is paid, contains, as has been over and over again shown by our chemists, nearly three-quarters of a pound of water, and has little or no more than one-quarter of a pound of solid nourishment, for which small quantity we pay at the rate of from three to four shillings a pound, that is to say, the water in the steak costs us ninepence—a rather high price to pay for that very cheap fluid. Your space demands brevity, or I could easily crowd your columns with the most overwhelming, the most crushing evidence in favour of a rational diet, instead of one wisely intended by Nature only for wolves, lions, vultures, and other birds and beasts of prey, who feed naturally on flesh.

Beef or mutton is not a rational food for man, as is most conclusively shown both by the *Lancet*, and also by a perfect host of other high authorities, including the *Times*, which states: "Authoritative teachers in dietaries, some years ago, insisted upon the absolute necessity of a considerable supply of meat for the due support of hard-workers. Now we have arrived at a period when the heterodox of those times is the orthodox of these, and oatmeal and pulses are declared to be very effective substitutes for meat." Beef and mutton have no relation to health, morality, economy, or refinement.

M. NUNN.

### A MINISTER OF HEALTH.

SIR,—In the able efforts you and your contemporaries are making in your health journals to give a wide diffusion of all matters calculated to improve the welfare and happiness of the household, it strikes me that they are at times undervalued by the masses for whom they must be of the greatest benefit. The lower grades of Society seem to have got into a rut from which it is difficult to extricate itself, despite the exertions of our social reformers and philanthropists. The working-classes appear to care little regarding the improvement of their social condition, spending the most part of their existence in their homes, which, it is safe to say, in many cases are far from being in harmony with our much-vaunted age of civilisation. Instead of being healthy homes, they are deadly homes; and in place of happy homes, they are miserable homes—being little better than dens and dungeons, scarcely fitted for the lower animals, instead of the habitation of man—the outcome of such

residence being a large proportion of deaths and as great a proportion of the national poverty and crime. Now, wherein lies the cause of all this wretchedness? At their own doors, in most cases. And how are they to be improved? Certainly by the continued efforts of our health reformers, assisted by others possessing the "dormant talent." It is only by hard struggling that success will attend their labours in elevating the masses, and in raising them up to a higher platform, and convincing them of the necessity of paying more attention to the laws of health and cleanliness and less to dangerous politics, the music-hall, and beer-shop.

But my principal object in addressing you is to ask space for the ventilation of a suggestion which, if acted upon, might play a marvellous part in improving the health and happiness of the people, viz., a Minister of Health in the Government to promote and devise health legislation.

The support and recognition of the State must be obtained for a further extension of sanitary measures, to enable us to remove the obstacles which are a barrier to the attainment of health, morals, and virtue. The sanitary condition of the country demands the immediate attention of the Government, as our population is rapidly increasing, our towns and cities are becoming denser, our industries are fast developing, our atmosphere is becoming poisoned with smoke and other offensive emanations, our finest rivers are being converted into mighty sewers, and other nuisances eventually crop up which compel us to watch the march of events, and make the necessary provision for their solution by the amending and enacting of laws which bear upon these matters. We have a Board of Trade, a Board of Education, we have also Ministers of Trade, Education, and Postal Departments, and there are indications of one being elected for Agriculture. The fact of all these departments demanding careful attention we do not deny, but surely, if these are important, the subject of health is no less important. In fact, it should be placed first in importance to employ the "unexhausted resources of civilisation," and check the alarming rate of preventable mortality. Considering all these and other reforms that are urgently needed, I see no reason why we should be denied a Board of Health, with a responsible Minister at its head, who would be of inestimable value in promoting the sanitary condition of the country, who could be consulted on sanitary matters of dispute between town and town, and who would take steps to insure the better preparation and sale of the nation's food, and otherwise conduce to the health of the people.

A Minister in the Government would not be ill-employed in devoting his time to these objects, and being engaged in such a humane work, would earn the distinction of being the most popular member of his party. The power in this matter lies with your readers and the public generally. They have the power which, if properly applied, and if carried to a successful issue, would play a conspicuous part in the real triumph of peace, retrenchment, and reform. Apologising for monopolising so much of your space, I am, &c.,

Leith, June 22, 1883.

J. COCHRANE.

[Dr. B. W. Richardson and other sanitarians, with whose views our correspondent does not seem acquainted, have strenuously advocated a "Ministry of Health," as an essential part of a perfect Government.—ED. H.]

### QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending HEALTH to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.]

We must also request correspondents who write enclosing stamps for copies of HEALTH, to address their inquiries to the Publisher, and not to the Editor.]

### GENERAL.

C. ONTNER.—Yes; by all means.

G. B.—No. See reply in last number of HEALTH.

A. ST. M.—A high development of the epithelium or cell membrane of the gum.

CARRY.—No such person on the "Register."

ROBT. A. WILSON.—The topics you name are so wide and general, that they comprise nearly the whole field of medical science. Hence no one book can give you all the information you seek. Possibly Ribot's "Heredity" (C. Kegan Paul & Co.) would suit your purpose in some respects, and a study of articles such as "Here-



dity," "Longevity," &c., in encyclopædias, would also aid you. Mr. Galton's books, published by Macmillan & Co., also contain information of the kind you seek.

HERBERT A. SCRATCHLEY (Algeria).—Many thanks for note and cutting. The operation of washing out the stomach is quite common in medicine nowadays. We may use your cutting soon.

#### SANITARY.

C. BROOK.—1. The trap is inefficient. 2. No.

A. C. D.—Too technical for our columns.

IVANHOE.—See description of Hincke's Bird's Ventilating System in No. 12 HEALTH, in reply to FRED. W. C.

SANITARY HOME.—1. You cannot test for arsenic without chemical knowledge and re-agents. If arsenic be suspected in wall-paper, send a piece of the paper to a chemist. 2. Colour and arrangement depend entirely on taste. For south exposure with bright light, you may use darker colours; for moderate light, neutral greys or browns; and for darker rooms, lighter papers. A glance at patterns by Woollams or Jeffreys, and a consideration of your "lights," will best decide your choice.

#### MEDICAL.

J. WEBB.—Live moderately; don't take fluids for some time before going to bed; take moderate exercise; sleep on a hard mattress; try cold bathing. There could be no objection to the step you took. Try "Fellows' "Syrup of the Hypophosphites" as a tonic. Write again, if necessary.

CRAIG DHU.—A clear case of overwork. You have gained your position at the expense of your health. All your symptoms will disappear with rest, bracing air. Try the Essex coast—Aldeborough, Clacton; or the south—Dover or Folkestone. Give the tonic recommended to "J. Webb," above, a trial. Rest, by all means, and let us hear how you are after your holidays. If we mistake not, a bracing air will cure you.

F. J. G.—Yours is a common case. Have no fear. See reply to "J. Webb," above. We should say, do with *less* exercise. All will come right in time, through attention to your general health.

JAMES H. NOLAN.—Overwork slight, and confined hours and occupation. We should advise you to give up your meat tea, and your coffee before bed. Take a good solid meal for dinner, and do less reading in the middle of the day. A morning cold bath (if you can bear it) might do you good; but you should take a little more exercise, and increase your nourishment slightly. Don't begin with medicine—try change of living in preference.

COSMOS.—Don't be uneasy or morbid. You possibly sleep too much on your back, hence your dreaming. Tie a reel of cotton in the middle of your back, so that if you attempt to sleep thus, you will be awake. Try a cold morning bath.

J. W. K.—See replies to "J. Webb" and "F. J. G." above. Follow advice there recommended, and write again if unimproved.

A. ROWLEIGH.—What are your habits? Are you over-earnest in business? We incline to think so. Do you eat late suppers?—if so, don't. Bathe the head with cold water before going to sleep, and see that your bedroom is well ventilated.

CICERO.—See past and future papers on "The Hair," in HEALTH.

F. J. C.—See our papers on "The Hair," wherein you will find recipes suited to your case.

ELECTRICAL BELT.—We are engaged in an investigation into the nature of "electrical belts" at large. Many, we are sorry to say, are simply frauds, and do not produce electricity at all. The belt we named before is thoroughly genuine. We have tested it.

XENOPHON.—We do not think hardening the gum will do you good, but, at least, you may try the effect of tincture of myrrh for that purpose. See a good dentist. He may be able to detect some cause for the loosening.

NATATOR.—Less exercise, please—rest more, and attend to nourishment. Don't be anxious. You are apt to grow morbid, but there is no cause or need to do so. See notice to "J. Webb" and "F. J. G." above. Write again if necessary. What do you mean by "great debility?"

SOI-DISANT.—You might ask Mr. Browning, of 63, Strand, London, to advise you as to spectacles for reading. Give your eyes rest. Try simple cold water applied to the eyes night and morning with an "eye glass."

ESOTIC.—Certainly not diabetes. Try the effect of an injection of Condyl's Fluid tolerably strong, thrice daily; and the tonic recommended to "J. Webb" above. A change to the sea would benefit you. Live well, but avoid stimulants.

NIGER.—Symptoms those of dyspepsia and bilious disorder. Don't make any difference in your food; live moderately; avoid too much meat; and take occasional doses of "Æsculap" water as an aperient. Write again if unimproved. Is your general health good? Don't *overdo* exercise.

W. A. S.—Try the "B. B. B. Insect Destroyer," of Messrs. Norman. It is very effective in killing all kinds of insect-pests.

ALLAN HOWARD.—If you will state any fears or grounds for fear you may have, we will be glad to advise you. We cannot detail, on your somewhat vague information, all the qualifications you wish for—save to sum them up by saying "good health."

PORTOBELLO.—Possibly 15-grain doses of bromide of potass, given along with sarsaparilla, might effect the purpose you name.

RIG. BOR.—We should say, see a good surgeon. Your glands, as we understand you, are enlarged. Try painting with tincture of iodine. You should rest, and give up exercise for a time.

NEWPORT.—Try a vegetarian dietary, and as complete a revolution in food as you can make. Give up tea and coffee, and try milk instead. Eat plenty of fruit, and take occasional doses of "Æsculap" water. Give up the tonic you are at present taking.

SUFFERER.—Thanks for your letter. We see no reason to doubt that by taking cod oil combined with iron, or the cod oil emulsion, you would benefit therefrom. You are one of those persons who require to pay strict attention to food, warmth of clothing, regularity of sleep and rest, and good ventilation. As a mild aperient try "Æsculap" water. Don't be alarmed, for with care and attention your family history need not cause you uneasiness.

PUER.—Try the effect of rubbing the fingers with warm oil or warm vaseline before entering the water.

DIABETES.—Yes, starch, or cellulose—a substance allied to starch—certainly exists in the pods.

B. T. G.—See a surgeon. Possibly only a simple operation (which could be performed in your Infirmary) will relieve you. Try doses of compound liquorice powder—a teaspoonful twice a day. The careful injection of cold water before the period when you feel pain will relieve you. For bleeding, use gall-ointment. But see a surgeon, by all means.

COSMOS.—Try *Fer Bravais*, or Wyeth's Dialysed Iron, attending to the directions given with the medicine. This will tone your system. For the hair-trouble we should recommend you—at first, at least—to try the effect of pure vaseline rubbed into the parts night and morning.

B. H. E.—So far as we can judge, you want not so much relaxing treatment as a bracing air and nourishment. If the sea agrees with you, give it a trial. We fancy a light mineral water, such as "Sparkling Ems" or "Æsculap," would suit you better than other aperients. The liquid food you mention is, we believe, a reliable preparation. We regard your loss of taste for smoking simply as a symptom of the nervous depression under which you labour, and it is this fact which makes us suggest a more bracing air as likely to do you good, and to restore your loss of sense.

A. Ω.—Bathing with lukewarm water, rest, and application of pure vaseline.

W. MILNE.—We could not undertake to answer your question. A surgeon alone, after due examination, can satisfy you. The disease has a tendency to disappear after a period of years, but each case must be judged on its own merits.

L. E. L.—Very difficult to advise you. We should say try charcoal biscuits thoroughly. Gargle the mouth and throat with Condyl's Fluid—a tablespoonful to half a tumbler of water; or use "Sanitas," which is non-poisonous and safe. You might also benefit from a course of "Æsculap" water. Of course, see to your teeth as well.

D. WERNER.—We think you are overworked, and believe a thorough change for a time will do you more good than any medicines. If you are over-anxious about your work, your nervous symptoms will naturally appear as you have given them. In the matter you mention, be moderate, decidedly. Try a change, and endeavour to be less anxious.

NOVA SCOTIA.—Yes; your case is not singular. Continue the tonic, and study our papers on "The Hair," wherein reference is made to such cases and the remedies therefor. As your health improves, the hair will cease to fall off.

ANXIOUS SUFFERER.—You appear to require a thorough change. A week or two by the sea might do your troubles good. Try "Æsculap" water in preference to the salts. Sponge the head with cold water before going to bed. The other symptoms should disappear with rest and change. Write again, if unimproved.

CLIFTONIAN.—Try the effect of avoiding *direct* light as you sit at your desk. You might try a lotion composed of two grains extract of Belladonna to an ounce of water, using this night and morning to bathe the eyes.

H. GOODWIN.—Depends on the *cause* of the neuralgia. Are the teeth sound? Look to this, as a frequent cause is tooth-decay. Try three grains of quinine when the pain is severe. Chloroform liniment is useful; and an aperient will often tend to alleviate the affection. The patient, however, should have history fully investigated by a physician.

JANE.—Try a shield or protector, to be had at the druggist's; or



a little collodion may be used. For the lips, use a little pure vaseline.

**DESPARO.**—We advise you to go to your large hospital or infirmary, and see one of the physicians there. Your case is one which demands a thorough physical examination. Have this done at once, and your mind may be relieved.

**MAB.**—We are inclined to think one of the red flannel chest-protectors preferable to the wash-leather for the case you mention.

**NEURALGIA.**—See advice to "H. Goodwin," above; and see to your teeth especially. Try what "Fellows' Syrup of the Hypophosphites," a teaspoonful before food, thrice daily, will do for you.

**H. M. R.**—Possibly the fluid may act in the way you mention, but at best it is a coarse and by no means certain remedy. We advise you to seek a more certain application (*e.g.*, potash, &c.).

**ECCEIS.**—The symptoms you mention are those of nervous depression. It is difficult to account for them. Are you sure you did not enter the water chilled? Avoid evening bathing in future. Bathe before breakfast, and do not overdo the recreation.

### BOOKS, ETC., RECEIVED.

*The Family Physician.* (Cassell & Co., Limited.) *Tea, the Drink of Pleasure and of Health*, by W. JORDAN STABLES, C.M., M.D. (London: Field & Tuer.) *Deep Breathing*, by SOPHIE, MARQUISE A. CICCOLINA. Illustrated. (New York: M. L. Holbrook & Co.) *Lantern Readings: "Voyage of the Challenger,"* by W. L. CARPENTER, B.Sc., &c. (London: York, Lancaster-road, W.) *Familiar Lectures on Food and Drink*, by Dr. MANN (London: Ward & Lock). *Household Medicine*, edited by GEORGE BLACK, M.B. (Ward & Lock). *Reports of the Medical Department Local Government Board* (various).

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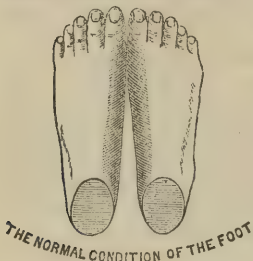
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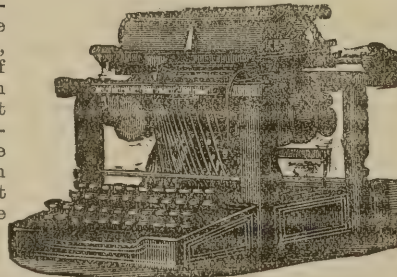
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## ♦ HEALTH ♦

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JULY 13, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

A WRITER in one of our daily contemporaries has a well-timed letter on the subject of that common skin disease "ringworm," the parasitic and plant nature of which was duly described in a recent number of HEALTH. "Ringworm" of the scalp is unquestionably an infectious disease, and the writer above alluded to—a physician in charge of the out-patient department of a hospital—says that the affection just named is caught at, and propagated in, Board Schools. He adds that the disease is probably existent to the extent of nearly 11 per cent. in Board Schools and other institutions which are not medically supervised. More grievous is it to learn that ringworm appears to have "taken a fast hold of our town population," and that it "has become a source of trouble to all classes." The remedy for this state of things again appears in the form of parental education in the ways of health and common sense. If people would only learn to separate their ailing children in such cases from all contact with other children until the disease is cured, we should assuredly in time stamp out "ringworm," along with a host of other infectious disorders.

♦ ♦ ♦

THE topic of life-saving apparatus is, we are glad to see, coming to the front at a time when our excursion steamers are bearing their loads of pleasure seekers here, there, and everywhere, and when coast and seaside visitors will venture on "the briny deep" in boats, despite their utter ignorance of seamanship in all its details. There are three things which, proverbially, every person is supposed to be capable of doing, and of doing well. Firstly, everyone can (or thinks he can) "drive a gig"; secondly, everyone can "sail a boat"; and thirdly, everyone can "edit a paper." As a matter of fact, comparatively few people can do any one of the three properly, and this for the reason that some degree of special training is required for the perfect discharge of each duty.

♦ ♦ ♦

To the above-mentioned three proverbial duties of life which everyone can, of course, discharge, we might add a fourth. Everyone thinks he can use life-saving appliances and restore the "apparently drowned" to consciousness—

such, at least, is our experience, culled from several incidents of the kind in question. Yet, there exists much lamentable ignorance on this topic even at the seaside, where drowning accidents are most liable to occur. We shall take an early opportunity of endeavouring to remove this ignorance through the medium of a paper or two in HEALTH. Meanwhile, it might save a world of misery and trouble were the magistrates and authorities of our seaside resorts to prohibit by law the letting out of boats on hire with sails and without boatmen, to all and sundry. When an accident does happen, there is a howl of indignation from press and public alike; but we never seem to bethink ourselves that, as regards sailing accidents of this kind, prevention is better than cure.

♦ ♦ ♦

"WHEN people are struggling in the water, what can be done to save them?" is a question which was very fully answered the other day at the Fisheries Exhibition, when the Jurors met to award prizes in the department of "Life-Saving Appliances." In the account of the proceedings, which we hope to publish in our columns, rafts and other appliances were duly tested. But the most interesting part of the Exhibition was that devoted to showing how the ordinary furniture of a ship—tables, chairs, hen-coops, beds, &c.—could, through simple details of construction, readily appear when thrown into the water as veritable arks of safety. Even seidlitz-powers have been utilised for saving life at sea, through the generation of the familiar gas (used in this case to inflate bags), which occurs when the powders are wetted.

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In speaking of "life-saving appliances," we might suggest that the Board of Trade should at once proceed to insist on all steamers being provided with detachable seats, capable of being used as rafts, &c. We all know the boats carried by steamers, and we also become painfully aware of the fact that the said boats, in event of danger, could never hold a tithe of the passengers frequently to be found on board the vessel. We are all familiar, too, with the rusty davits, and the dry and slender ropes (not too often inspected or tested), by means of which the said boats are supposed to be lowered in case of need. The life-buoys also, are, as often as not, firmly tied to the vessel; so that a passenger who might be nearest a buoy could not readily detach it and fling it towards a sinking man. If we had our will, we should require that not only should efficient life-saving apparatus exist on board every steamer, but we should also see that every seat placed by the sea-side, or by ponds and waters, should be so constructed as to be at once convertible into a raft, by simply placing it in the water.

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BUT the latest novelty in expedients for saving life is one which proceeds from Dr. Silvester himself. This gentleman's name as the "inventor" of a highly successful method of artificial respiration used in restoring the apparently drowned, will be familiar to many readers. Dr. Silvester proposes to take a dog, a calf, or other animal which can swim, and, by blowing air underneath its skin ("hypodermic inflation" is the learned name for this inflation), to convert it into an active, living, life-raft. A small dog, weighing 10 lb., was able, when "inflated," to sustain a weight of 18 lb. in water, in addition to its own bodily weight. A cargo of bullocks might thus be utilised to save a ship's crew, but our navigators would require, of course, to be duly instructed in the art of "inflation." There would, probably, be a cry from those irrationalists



who think more of an animal's "pain" than the saving of life. But to blow air beneath the skin is a painless operation, and one which has its parallel in the injection of morphia below the skin for the relief of neuralgia.

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Most of our readers have heard of cases in which skin has been "transplanted" from a healthy surface to a part of the body where a new covering was required; as, for instance, where a skin-deficiency has existed as the result of a burn or other injury. It is interesting to learn that now-a-days "transplantation of muscle" has become a reality of surgery. In a German patient who had lost half of the well-known "biceps" muscle of the upper arm through an operation for a tumour, a large portion of the similar muscle from the leg of a dog was introduced. The parts were duly placed in position, and the case carefully watched. In three months after the operation, electrical tests showed that the canine "transplantation" had apparently settled comfortably down in its new situation, and was performing its duties of movement in a tolerably satisfactory fashion. The movements at the elbow-joint we are told, were almost of natural kind.

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It would, indeed, be strange if the surgery of the future, held for us, amongst its possibilities, the power of replacing even more serious loss of substance by substitutes derived from lower life. There might, however, exist an uncomfortable suspicion that we should perchance lose so much of our actual humanity by this process of replacement. A humorous story, recently published in a magazine, might well foreshadow some features of allied character to that we have just suggested. The story is that of a European who had transplanted into his mouth by an adventurous dentist, a full set of Arab teeth, drawn from the gums of a recently-killed Eastern freebooter. The dental transplantation—so the story goes—completely altered the character of the Western, who lived a wretched life, half Mussulman, half European, until he was forced to return to his normal ways by the extraction of the foreign teeth. Balzac would have made much of such an idea, with the grim humour and ingenuity of his nature.

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WE commend to the attention of our readers Mr. Lant Carpenter's letter on "Faith Healing," which we publish to-day. As a contribution to the interesting topic recently ventilated by Dr. Riches in our columns, Mr. Carpenter's allusions to the true nature of faith healing cannot but prove interesting. For one thing, the idea of "confident expectation" that a cure may result where there is no physical possibility of apparatus or medicine acting beneficially places the matter on the reasonable basis of the influence of the nervous system over the body at large. A medical man knows that coloured water and bread pills often work wonders where a patient is impressed with the idea that valuable medicine is being given him. Twenty drops of pure water, supposed by a patient to be morphia, have caused sound sleep in many a case of sleeplessness. On the same footing, we may explain how and why it is that people give gushing testimonials of cure by electrical appliances, which, when tested, are found to produce no electricity at all, or to produce it in a quantity too infinitesimal to exert any appreciable effect on the body.

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In our next issue we shall begin the publication of articles descriptive of cholera and its history. These papers should prove interesting at the present time.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### THE HEALTH OF AMERICAN WOMEN.

BY A PHYSICIAN.

#### SECOND PAPER.

THE second writer who contributes to the symposium in the *North American Review* is Mrs. Stanton. This lady commences her chapter by the very just remark that girls not only suffer the disadvantages under which boys labour "from ignorance in parents and teachers," but have inflicted on them numberless special deprivations to which their sex renders them liable. Throughout her reasoning, Mrs. Stanton is always sound, and her paper is a powerful plea for the regulated physical development of the constitution of the girl. Girls, she maintains, are laid under early and constant obligations to rules of conduct which hold them "in a condition of neutrality, destroying in time all self-reliance, and making them afraid alike of a thunder-storm and a mouse." Mrs. Stanton next tells us the story of a father who tried the experiment of educating his son and daughter alike, by way of making them equally self-reliant. "Turning, he saw them climbing a tree, and cried out, 'My daughter, do not go any higher.' 'Why not,' said she; 'Bob goes to the top; I have two legs as well as he;' and on she went. I promptly called his attention," adds Mrs. Stanton, "to the effect of such remarks, and added, 'Fortunately, your daughter's confidence in herself is stronger than her reverence for your authority, and she takes her rights.'"

There are few amongst us, whether we may approve or not of tree-climbing as an exercise for girls, who will not re-echo Mrs. Stanton's words when she speaks of the absolute absence of play and gymnastic exercises for the schoolgirls of our cities. The statutory filing, two by two, as they pass along the street, is, in itself, a monotonous weariness. There is little wonder that "a girl's impulses seem to be ever in conflict with custom," as Mrs. Stanton remarks. It is deeply to be regretted, for the sake of the physical health of the women of the future, that the practice of having a regular gymnasium in girls' schools is by no means so common as it should be. There is little wonder that, without any perception or leading being acquired or given at school on the subject of physical development and exercise, our young women should grow up into the "microscopic girls" of whom Dr. Lewis speaks so strongly.

Mrs. Stanton sums up the case for physical exercise in girlhood so well that we may quote her words:—"At an early age we present our pale girl with a needle. When we consider the position necessary to sewing, can we wonder that she grows paler? Let us base our social customs on the truth that for many years our children are mere animals. Do not saddle and bridle your colt too young, or you will ruin your horse. Then, too, our girls make their *début* in society too early, often at the age of sixteen entering upon a round of social gaieties. When we think what this young life must sustain, the delicacy of American women should cause no surprise:—1st, the girl must rally under a great physical change; 2nd, she must stand well in school; 3rd, she must assume some care of her own wardrobe; 4th, she must obey the behests of society. Compare this with the school-days of boys—study and play, nothing more.



Even in the labouring classes, where some work devolves on boys, it is always of a healthful nature—chopping wood, making gardens, or running of errands. So unequal are the requisitions made on the sexes outside the schoolroom, that one of two conclusions is inevitable—either boys are shamefully lazy, or girls are cruelly overworked. From fourteen to twenty-five is the allotted age for study. You can swallow whole and digest a Greek verb at fifteen, but, even after the most complete mastication, it gives you a mental dyspepsia at forty. Hence the importance of concentrating into the years of impressible memory all of intellectual development that is compatible with the highest physical health. I plead for the heroic in study and play, and for the freedom of youth as long as possible. It is not a stoic's life I demand; but a waltz at the dancing-school, with a boy of her own age, is far better for a girl of sixteen than the flattery of a society man of double her years, at some fashionable *soirée*. A game of billiards gives more benefit and pleasure than the most exquisite piece of fancy work; a canter on horseback is more desirable for pale cheeks and cloudy brains, than an anxious hour over a cook-stove. To the declaimers against ill-health our American girls would do well to say: We will take care of the higher education if you will let the cook-stove and needle take care of themselves."

Of course, the natural plea which will be advanced against the views of Mrs. Stanton, are readily conceivable. The total overthrow of so-called "etiquette," as represented in the life of the girl, will be assuredly predicted. The girl will be named a "romp," or even worse, who, in the present state of society, in England at least, would subscribe practically to Mrs. Stanton's views. But health-reform has been so long accustomed to find itself opposed in its best efforts to the *convenances* of society, that this discovery will not daunt outspoken sanitarians. If the case is plain, that girls need physical exercise infinitely more keenly than boys, whose opportunities of play are so many, it is for health-reformers to take their stand on their own solid argument, and to say that theirs is the bitter side who prefer fashion to health, or so-called "society-customs," warped frames and shortened lives, to the pleasures of a healthy life and a green old age. Mrs. Stanton, like every sincere reformer, evidently feels, keenly enough, that the reforms she advocates are certain to be labelled as tending to produce strong antagonism on the part of many sections of the public. She remarks that the life of the French convent is a specially healthy existence.

"The cream of Catholic France is in its convents. Most of the sisters enter between eighteen and twenty-five. The women I have seen in these convents are healthy and happy, and that in spite of a most rigorous and exacting life. Among the sisters with whom I am acquainted—having spent three months in a convent—I see women with rosy cheeks and strong muscles. They rise every morning at four o'clock, and remain until six, on their knees, praying in the chapel. Their days are filled with useful work in the care and instruction of a school of poor orphans under their charge, and in attending to the demands of boarders. Yet with all their labours they are happy, because they are respected and healthy, and because they are fulfilling the mission of their choice. I know several cases of wealthy young girls going from convent to convent, in France, to find the order that responded to their tastes. These girls had ambition, and they found in this old civilisation an institution that would give them the right hand of fellowship, and offer them an opportunity for the attainment of honours. By the Catholic world these women are not told that they are out of their spheres; they are not dubbed 'sour old maids;' and those who

become acquainted with them will find they have perfect satisfaction in the lives they have chosen."

There are one or two powerful passages in Mrs. Stanton's essay, on the part which "the antagonism of the sexes" plays in making the ill-health of women. Here, again, it is best to allow Mrs. Stanton to speak for herself:—"As public thought just now seems to be drifting toward the consideration of sex, after granting all the differences necessary on which to base any argument, I claim that, because of these very differences, constant association in every sphere of life is important for the best development of boys and girls. In their games, boys rouse girls to activity; in their studies, girls stimulate boys to diligence, and once on the same plane they rise together into higher realms of thought than either alone can ever reach. It is a false philosophy which leads many to suppose that the errors into which young men and women sometimes fall, in the present artificial relations of our social life, would be increased if they were educated together in greater freedom. On the contrary, one-half the foolish dreams of each would be dispelled if they met every day on the playground and in the recitation-room; a better knowledge of their true relations would thus be acquired. There is a subtle magnetism, peculiar to each, as necessary to the harmony and perfection of society as the positive and negative attractions, the centripetal and centrifugal forces, to the order and stability of the material world. Hence the health of both sexes would be vastly benefited, and their intellectual faculties invigorated, by a more rational intercourse and a better understanding of the natural characteristics of each other. More misery comes from the antagonism between man and woman than from all other causes put together, for each starts in life worshipping an ideal being who has no existence in this world. Disappointments in love affect the health of women to no small degree, for love and religion are the only legitimate occupations vouchsafed to those of wealth and position. The distractions of business, politics, and out-door amusements, which help to fill up a man's life and change the current of his thoughts, are all denied to this class of women."

That the views thus expressed will meet with hostile criticism cannot be doubted. There may be some who may regard Mrs. Stanton's ideas as revolutionary in the extreme. Yet it is somewhat difficult to find a cause of reproach in her argument. Certainly, if we start with the idea that the health of women is to be bettered and improved, that the sex is to look forward to a higher physical development than it has yet seen, and which medical men own is certainly required, then will ideas such as those we have quoted contribute largely to the solution of the problem from the point of view of an earnest-minded woman.

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DRESS for children should be light in texture, gay in colour, washable, never so expensive that a soil on it costs mother or child a spasm of the heart, and in form it should be regulated by common sense. That rare faculty did not determine children's dress twenty years ago. Poor little imps! How one remembers the full short skirt, the low neck, the incessant hitching up the weight, first on one shoulder, then the other, the long waist below the hips, the whole hapless body unprotected, except about six inches of the ribs, which were overheated. Often the waist-pinching began at a very early age; it helped to keep their clothes on. The ugly thin arms of growing girls, red with cold, vexed one's eyes in the school-room. In crinoline time, the exercise of children—jumping, running, tumbling down—was either ugly or forbidden.—Mrs. Haweis, "Art of Dress."



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—*Gay*.

### NO. XIV.—THE HAIR AND HAIR DYES.

BY DR. ANDREW WILSON.

THE practice of dyeing the hair appears to be one of very ancient origin. In classic times, the practice was well known, and amongst certain Eastern tribes it is still regarded as a duty to dye the beard and hair. The Mohammedans dye hair and beard of a reddish-yellow hue as a kind of religious rite. There is one caution which should be universally borne in mind in dealing with the topic of hair-dyes—namely, that care and caution must be exercised in their use when that use is justified by any of the circumstances to which allusion has been made in previous papers. Where a fashionable craze sets in for blonde hair, and where the vain and silly units among the female sex attempt to imitate such a hue, the caution just given is needless. In this case, no considerations, either of sanitary or common-sense kind, are likely to weigh with the slaves of fashion. Or when an elderly beau, who is ashamed of the white locks which should be a sign and token of respectable and respected age, and who seeks to imitate the raven tresses of his youth by dyeing the few hairs he may still possess, insists on using dyes, it is possibly worse than useless to remonstrate. Such persons live outside the pale of a reasonable existence, and, at all risks, they will use whatever mixtures or lotions they can be assured will produce the desired effect.

As a rule, the common hair dyes contain lead in one form or another. Others contain nitrate of silver (lunar caustic), and some have sulphur as a constituent. A few contain iron in one form or another. As regards the lead dyes, a solution of iodide of potass added to a fluid containing lead will throw down the yellow iodide of lead, and in the potass solution we have, therefore, a test for lead in hair-dyes. The use of lead is at the best dangerous. Symptoms of lead-poisoning, as detailed in our last paper, have followed the use of such preparations, and it is a familiar fact that certain persons exhibit to lead a peculiar idiosyncrasy which renders them highly susceptible to its action. Against the use of lead dyes we should, therefore, caution our readers. If it is necessary to use dyes at all, there are many safer preparations which can be depended on to serve all the purposes for which lead is employed. A preparation which has now and then been used for staining the hair is the juice of the green rind of walnuts. As is well known, this fluid stains the skin. Its action on the hair is alleged to be that of "restoring" the colour. We are inclined to be somewhat sceptical of this action, however, inasmuch as, when added to hair which was originally dark, walnut-juice simply stains the hair, and such a result may readily enough be confused with a veritable "restoration" of the pristine hue.

Where it is desired to produce a black hue in the hair, the following lotion will be found useful:—Nitrate of silver, from 10 to 30 or 40 grains; distilled water, 2 ounces. This solution will require to be kept in a coloured or darkened bottle, so as to guard it from the light. It is to be applied so as to wet the hair thoroughly, and, if the result is to be hastened, the application of the following lotion may be recommended for use after the first:—Sulphuret of potass, 1 to 6 scruples; distilled water, 2 ounces. As a hair-darkener, the lotion which follows may be recommended as by no means of injurious nature:—

Sulphate of iron, 1 drachm; alcohol, 1 ounce; oil of rosemary, 12 drops; water, half a pint. This should be applied frequently to the hair. A black dye is formed of the following ingredients:—Citrate of bismuth, 1 ounce; rose water, 2 ounces; distilled water, 2 ounces; alcohol, 5 drachms; and ammonia, a sufficient quantity. This is to be applied to the hair, if possible, 8 or 10 hours before the second lotion is used. The latter is composed of hyposulphite of soda, 12 drachms, and distilled water, 4 ounces. It should be added that when dyes are applied to the hair it must be washed free from oil, and should be well-dried. When the dye has been applied and allowed to fix itself, a little simple pomade of any kind should be applied, so as to prevent undue dryness of the hair.

Where a *brown* hue is desired, a preparation composed of sulphate of copper 16 grains, and 4 ounces of distilled water, should be first applied to the hair; and, as soon as this is dry, a second lotion of ferrocyanide of potass, 16 grains, and distilled water, 4 ounces, should be sponged or brushed over the first. This latter, and, indeed, *all dyes*, should be labelled "*poisonous*," and should be securely kept, like all other household medicines, under lock and key. A dark-brown dye, or even a black hue may be obtained by the use of a lotion consisting of ammoniac-nitrate of silver, 1 drachm, and distilled water, 4 ounces; but this preparation, it should be noted, stains the skin. After the lotion has dried on the hair, the following should be applied with sponge or brush:—Pyrogallie acid, 2 drachms; distilled water, 4 ounces. The permanganate of potash (seen familiarly in Cond's Fluid) will stain hair of a light brown, if used of the strength of 20 or 40 grains to the ounce of water.

Red hair-dyes are of dangerous nature, and cannot be recommended with safety. Hair is often "bleached" red; but its quality and growth are imperilled by such treatment. Of the "yellow" and "blonde" dyes, the same remark holds good. Lightening the hue of the hair involves, as a rule, a "bleaching" action, which is destructive to the tissues experimented upon. Washing the hair in strong soapsuds and then exposing the hair to sunlight bleaches it somewhat—a result more certainly brought about when a weak solution of caustic potash is employed. Chlorine, sulphurous acid, and nitric acid, have also been employed in bleaching the hair to a yellow hue. But we have delayed long enough over the topic of dyes. Our final advice to all concerned may well be to avoid dyeing the hair at all, for this process is never undertaken without some attendant risk. As a matter of necessity, and to avoid appearing conspicuous, we may have occasion to alter the hue of the hair; but there can be no justification whatever of any such practice undertaken for the sake of "following fashion," or other such reason. Persons who dye their hair are as likely as not to end their experimentation with the anything but gratifying result of having no hair to dye.

CITY GARDENS.—Nowhere are open spaces and recreation grounds more needed than in the City of London. We are glad to see, therefore, that at a meeting of the Commissioners of Sewers recently, it was resolved that they should, as the Burial Board of the City of London, forthwith put in decent order all disused burial grounds within the City, and charge the costs and expenses to the overseers of the respective parishes in which such burial grounds are situate, pursuant to the 18th Section of the Burial Act, 1855. We hope that the Commissioners will see their way to going a little further, and have all these grounds as far as possible laid out as City gardens, planted, provided with seats, and kept open as recreation grounds.



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. XII.—THE FACE.

BY A. J. MANSON.

SPECIALLY characteristic of man as is "the human face divine," this region of our frames, in its general conformation, is modelled on the same common lines as the physiognomies we meet with in lower life. The human face, in fact, owes most of its special characters to modifications of the general type which lower life discloses. Into the face-portion of man's skull fourteen bones enter. These are mostly disposed in pairs, and are for the most part readily distinguishable, and easily recognised. It will be remembered that (as was shown in our last paper) eight bones form the *cranium* or brain-case. So that with the fourteen bones of the face, and the eight of the cranium, the human skull is seen to be composed of no fewer than twenty-two bones in all.

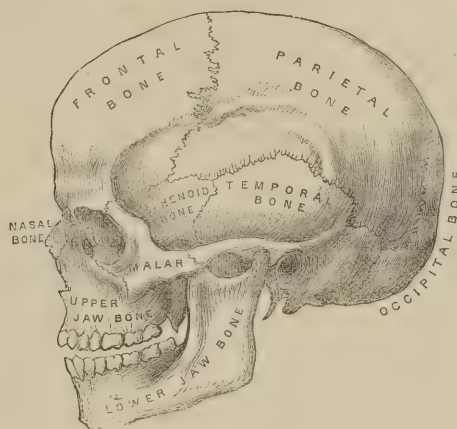
We may begin our study of the face by a reference to the two bones which form the upper jaw. These are named the *superior maxillary bones*. The upper jaw is thus seen to consist of two bones, and not of one only, as is commonly supposed. If we look at an ordinary skull in front, we may see the line of union of these bones. In front, each of these bones exhibits in early life a portion which, in many lower animals, remains to form a separate bone, the *inter-maxillary bone* of anatomists. In the disease known as *cleft-palate*, which is only a kind of aggravated hare-lip, the two upper maxillary bones may be separated to a greater or less degree from one another.

The *palate bones* form the next pair of the face. These bones assist in forming the roof of the mouth, and also aid in the formation of the outer wall of the nose. A single bone, named the *vomer* (or "ploughshare"), comes next in order. It lies in the middle line of the skull, and assists in forming the partition between the nostrils. To the vomer succeed the *inferior turbinated bones*, which lie on the outer walls of the nose, and present us, as the name "turbinated" implies, with bones of twisted or convoluted shape.

The *lachrymal bones* derive their name from the Latin for "tears." Each of these bones is a small scale-like piece, often compared in shape to a finger-nail, and placed at the inner side and front part of the *orbit*, or eye-cavity. The special name "lachrymal" is given to these bones, because the gland which secretes or makes the "tears" lies in a groove on its outer surface. The *nasal bones* (see Fig.) are two small bones, lying side by side, joining the *frontal* or "forehead bone" (see Fig.) above, and forming the bridge of the nose. In the skull itself, the nose, as we are aware, seems abbreviated and shortened. This is because the nasal bones are alone seen in the dried skull; the greater bulk of the nose being formed during life by the cartilages or gristly pieces which the nasal bones bear. The *malar bones* are those which form the cheeks. Each bone (see Fig.) assists in forming the outer wall of the eye-socket, and then resting on the upper jaw, sends a projection backwards. This projection, as shown in the illustration, joins with the process given off from the *temporal bone*, and an arch (the *zygomatic arch*, or *cheek arch*) is thus formed by the junction of the two processes. It is only in the class of quadrupeds that we see the cheek and temporal bones thus uniting; and in such animals as

the lions, tigers, dog, cat, &c., the cheek arch is very wide, to admit of the large muscles of the lower jaw passing down inside it.

The *lower jaw*, or *inferior maxillary bone*, unlike the upper jaw, is a single bone. It is of a horse-shoe shape, and is the only movable bone of the skull. In early life the lower jaw consists of two distinct halves, but during the first year of existence the two halves unite at the chin to form the single bone of adult life. It is only in the human lower jaw, that we see a forward inclination or slope at the chin. In lower animals, the line of union at the chin slopes backwards. The bone sends on each side a limb or process upwards, each limb ending in two projections, one of which (the *condyle*) fits into the socket of the lower jaw in the *temporal bone*.



The Adult Human Skull.

The fourteen bones of the face have thus been described. Enumerating them again we discover: two upper jaw-bones; two palate bones; the vomer; two turbinated bones; two lachrymal bones; two nasal bones; two malar bones; and the lower jaw-bone.

In addition to these bones of the skull proper, mention might here be made of a bone named the *hyoid bone* (so called from its resemblance to the Greek *upsilon*, *v*), which is situated in the neck, and lies practically at the root of the tongue. It supports this organ, in fact, and gives attachment to its muscles.

In early life, the face itself is small, and has been estimated to equal in size one-eighth of the entire head. The enlargement which is subsequently seen in the face is due to the development of the teeth and jaws. In adult life the face attains a size wherein it measures about half that of the head. In the female sex the face is smaller in proportion to the brain-case than in man, and, taking the characters of the female skull as a whole, anatomists believe that the infant-characters remain more prominently in women than in men.

As regards changes in the human skull which appear at present to be in progress, we may mention the belief of most anatomists that the teeth arches and sockets are becoming shorter in civilised races. Mr. Darwin has an interesting passage on this peculiarity in his "Descent of Man": "It appears as if the posterior molar or wisdom teeth were tending to become rudimentary in the more civilized races of man. These teeth are rather smaller than the other molars, as is likewise the case with the corresponding teeth in the Chimpanzee and Orang; and they have only two separate fangs. They do not cut through the gums till about the seventeenth year, and I have been assured that they are much more liable to decay,



and are earlier lost than the other teeth; but this is denied by some eminent dentists. They are also much more liable to vary, both in structure and in the period of their development, than the other teeth. In the Melanian (black) races, on the other hand, the wisdom teeth are usually furnished with three separate fangs, and are generally sound; they also differ from the other molars in size, less than in the Caucasian races. Professor Schaaffhausen accounts for this difference between the races by 'the posterior dental portion of the jaw being always shortened in those that are civilised, and this shortening may, I presume, be attributed to civilised men habitually feeding on soft, cooked food, and thus using their jaws less. I am informed by Mr. Bruce that it is becoming quite a common practice in the United States to remove some of the molar teeth of children, as the jaw does not grow large enough for the perfect development of the normal number.' Mr. Darwin adds in a foot-note that Professor Montegazza, of Florence, wrote to him that as the result of a study of the wisdom teeth in different races of men, he has come to the same conclusion—namely, that in the higher or civilised races, these teeth are on their way towards early wasting and final extinction.

**A BROKEN NECK.**—A woman was taken into University College Hospital some years ago, with a mysterious affection of the neck, which puzzled all the doctors. She had received a blow some time previously, and kept her head immovably fixed in one position; but she was in no way afflicted with loss of power or motion, and it was thought to be rheumatism or some kindred disease which affected her. Shortly afterwards, a sudden noise caused her to turn her face incautiously, and she dropped down dead. Then it was found that a little projection of one of the upper bones had been snapped off and got jammed between that and the next; a marvellous instinct had prompted the patient to resist all movement of the neck, until, thrown off her guard, she had, by turning, allowed the fragment to slip in and compress the spinal cord. Heister suggested the elevation and removal of such pieces of bone by operation, which has been performed by Louis, Cline, and several American surgeons, with but little success, as might be expected from its gravity. It is, however, held to be justifiable, since, without it, a fatal issue is almost inevitable; moreover, in one case, conducted at Whitworth Hospital, Dublin, by Dr. Gordon, there was permanent recovery. A poor man, an artist of very humble pretensions, broke his neck (that is to say, the lower part of it) several years ago, with this result—life was preserved, and such health as is possible under the circumstance restored to him, but all the body below the level of the fracture, arms, trunk, and legs were completely paralysed. So he lies—for he is still alive—an active and intelligent head tied to an inanimate log. Yet that man earns his bread and supports a large family (possibly better than he could when he enjoyed the use of his hands), *by his original vocation*, drawing and painting! One of his children holds the paper before his face while, with the pencil or brush in his teeth, he traces the figures by movements imparted by the lips and tongue; and he can write in the same way. His drawings would probably not rank high from a purely artistic point of view, but they command a ready sale and fetch good prices, nevertheless. The painter, destitute of arms, who is the object of whispering wonder to tourists in Antwerp, as he reclines in his chair and labours away with his feet day after day in the Museum there, sinks into insignificance beside the artist with the broken neck.—*Dr. Arthur Stradling in "Time."*

## The Family Circle

"The child is father of the man."—*Wordsworth.*

"In bringing up a child, think of its old age."—*Joubert.*

### OUR "USEFUL INFORMATION" PAGE.

HOW TO REMOVE SPOTS AND STAINS FROM FABRICS.

By AD. VOMÁČKA.

If the spots and stains are of *unknown origin*, for white or cotton dyed goods dissolve a little soap in lukewarm water, add a drachm of ammonia per quart; dip a sponge in it, and wash the spot first with this, then with water. For wool dyed goods, dissolve 20 parts ox-gall, 40 borax in 500 alcohol, and 200 wat. ammonia; add 30 of glycerine and the yolk of two eggs. Wash the stuff in the boiling mixture, then rinse in pure water, and dry in the air, protected from sun. For silk, satin, &c., dissolve 40 parts borax and 10 of soap in 70 parts diluted alcohol; add 30 parts ether, the yolk of two eggs, and 10 parts of carbonate of magnesium. Rub the spot with the mixture; wash in warm water, rinse in cold, and dry gently. Only a moderately warm iron should be used in ironing. Beat and brush to *remove dust*, and for woollen or silk dyed goods, old dried-up stains are smeared over with a little yolk of egg mixed with alcohol, allowed to dry, and scraped. Any adhering yolk is wiped on with a rag dipped in warm water. For *wine, beer, punch, &c., stains* in any fabric, wash in clean, warm soap-water. *Sugar, gelatin, gum, glue, blood, &c., stains* in any fabric, marks may be removed by washing in pure, soft water. To *remove sweat* from white fabrics, wash thoroughly in solution of hyposulphite of sodium, then bleach it. Wash thoroughly in solution of hyposulphite of sodium if the fabrics are of dyed cotton or wool; and wash in a very dilute solution of hyposulphite of sodium if silk or satin. For *milk, soup, and slight fatty stains* in white goods, wash in water, containing or lye. Wipe with a rag dipped in turpentine or benzine; remove the excess with felt paper, and wash in warm soap-water if dyed. And for silk and satin proceed as for dyed goods, only using ether or purest benzine.

In *butter, lard, oil, oil-colour, and varnish stains*, wet the fabric, if white or dyed wool or cotton; wipe the spot several times with a rag wet with oil of turpentine or benzine, lay on filter-paper, and draw a hot iron over. Finally, wash the whole fabric in warm soap-water. These stains in silk will give way if we mix ether and carbonate of magnesium to a thin magna, and spread it over stain. When ether is evaporated brush off the magnesia, or wipe it off with soft bread. *Old fat stains* in any fabric are first moistened with chloroform, then treated as just stated. For *stearine or wax stains* in any material, remove the drops carefully with a knife; place wet linen under it, cover several layers of filter-paper over it, and draw a hot iron or a hot knife-blade, &c., over it. If any stain then remains it is treated as in the preceding case. For *urine*, wash in alcohol or in very dilute solution of citric acid. Where *resin, tar, axle-grease, &c.,* forms the stain in white fabrics, moisten the fabric, wipe the spot with turpentine, cover with filter-paper, and draw hot iron over it; then wash whole fabric in warm soft water. If in dyed wools or cottons, moisten the fabric, cover the spot with fat; soap it thoroughly, letting soap act for some minutes, and wash alternately with turpentine and hot water. If unsuccessful, cover spot with mixture of turpentine and yolk of egg; let dry, scrape off, and wash in hot water. Finally, the fabric may be washed in highly dilute hydrochloric acid, and rinsed in pure water. If in



silk, moisten the fabric; wipe the spot with a mixture of chloroform and ether. If the spot is still visible use yolk of egg and chloroform. When no longer visible cover the place with white clay, put filter-paper over, and draw hot iron over it. Where *lime, lye, alkalies, &c.*, stain white fabrics wash in pure water; and for cotton wool and silk, moisten the fabric, pour on the spot, drop by drop, solution of citric acid. Finally, wash in water. *Vinegar, must, cider stains, &c.*, in white goods, may be removed by washing in water containing ammonia. For dyed cottons, wools, and silks, pour diluted ammonia on the spot; then wash in water. For *acid stains* neutralise by ammonia. Old stains are hopeless. *Fruit stains* may be removed from white fabrics by rinsing in Javelle's water or in dilute chlorine water, or hold over burning sulphur. When spot has disappeared, wash in water. Where dyed wools and cottons have to be treated, wash in hot soap-water mixed with chlorine water (insufficient to attack colour of fabric); then rinse in water containing ammonia. Next dip spot into solution of hyposulphite of sodium; wet it with sol. of tartaric acid, and when spot has disappeared wash with water. And for silks, same as for dyed goods, but with great care, and using only very dilute solutions. For *grass stains*, wash white goods in boiling water. For all other fabrics, moisten spot with solution of chloride of tin, and immediately wash in large quantity of water. *Stains of tannin, green nut-shell, &c.*, should be washed in dilute Javelle's water, or dilute chlorine water. If the fabric is silk, or dyed wool or cotton, moisten fabric with water, then with chlorine water (insufficient to affect colour of fabric), and immediately wash in pure water. In stains of *coffee, chocolate*, in all fabrics, cover spot with mixture of glycerine and yolk of egg, wash in warm water, and, while damp, iron it on the reverse side with a moderately hot iron. For *aniline stains* in white goods, wash in alcohol containing acetic acid. For other fabrics, wash in alcohol containing acetic acid. If the later affects the colour of the fabric use only alcohol. *Stains of nutgalls, iron-ink, and rust*, should be treated thoroughly with hot solution of tartaric acid; then wash thoroughly in pure water if the fabric is white. For dyed wools and cottons, let a drop from a burning candle fall on spot, and wash thoroughly in concentrated solution of phosphate of sodium; the older the spot the more thorough washing is required. If the colour of the fabric is fast, tartaric acid or chloride of lime may be used. For silks, &c., in very fine fabrics there is scarcely a remedy. If the colour of fabric admits, the spot is moistened with strong vinegar, covered for some time with beech-wood ash, and then thoroughly washed in strong soap-water. Old stains of the preceding should be washed in dilute solution of chloride of tin, and then thoroughly in warm river-water. *Oxide of iron, or "rust" stains*, should be washed in a solution of ferrocyanide of potassium, with addition of sulphuric acid, and afterwards rinse in solution of carbonate of potassium. If yellow stains still remain remove by diluted sulphuric acid. For silks and satins, same process, only with very dilute solutions. *Silver stains* should be dipped into a perfectly neutral solution of chloride of copper, where it is to remain more or less long, according to age of spot; then remove spot by touching it with a crystal of hyposulphite of sodium dipped in ammonia. Or moisten spot with solution of permanganate of potassium, and rinse in solution of bisulphate of potassium. This is for white or dyed wools and cottons. For silks and satins, same process, very cautiously, and with more dilute solutions.

NOTE.—Before applying any chemical re-agent to the fabric for cleaning purposes, it is necessary to try the

re-agent upon a spare fragment of the fabric, in order to ascertain whether it does not affect the material itself. All chemicals used, particularly oil of turpentine, benzine, chloroform, &c., must be perfectly pure.

## THE CHOLERA.

BY W. DOMETT STONE, M.D., F.R.C.S.

ALTHOUGH there is no cause for immediate alarm, it is, nevertheless, I think, advisable to be on the alert to check the advance of the pest now decimating the region about the delta of the Nile. Be it remembered, "When things are once come to the execution, there is no secrecy comparable to celerity."

The present is an opportune time for Mr. Gladstone to give practical effect to the aphorism, *Sanitas, sanitatis, omnia sanitas*, enunciated but, unfortunately, not carried out by Lord Beaconsfield. I venture to think that the appointment of a Minister of Public Health would command universal approval. For such post it would be difficult to meet with one so pre-eminently qualified in every way as Mr. Simon, who, with an efficient body of medical inspectors, would be able to cope with disease, check the progress of epidemics in general and cholera in particular, and effectually "stamp out" such infallibly preventable diseases as scurvy, small-pox, &c.

On the appearance of cholera, house-to-house visitation, with a plentiful supply of disinfectants, would do much to check the scourge. To speak of treatment may perhaps be deemed premature. Still, as sporadic cases do not unfrequently occur at this season of the year, it may not be out of place to look to that treatment which in former outbreaks has been attended with the greatest success, with a view to its general adoption. It has happened to fall to my lot to have had unusual facilities of studying, both theoretically and practically, the nature, causation, prevention, and treatment of cholera, and I trust it may not be thought presumptuous of me to remark that my practice, reading, and reflection convince me that the eliminative treatment urged with so much vigour by one or two able physicians cannot be too strongly condemned. Statistics show that in 1866 the treatment with eliminants proved the least successful, and that with astringents the most efficacious. Fortunately for the public at large, few advocates of the former treatment are to be found. I am of opinion that many lives would be saved by exhorting the public—by means of placards—to call in medical aid, or to apply at the numerous hospitals and dispensaries the moment the premonitory symptoms set in, instead of adding fuel to fire by taking castor-oil, as has been suggested, with the erroneous idea of assisting nature to eliminate the poison.

In conclusion, I would say to our legislators, "Advise well before you begin; when you have maturely considered, then act with promptitude." At the same time, I would enjoin them "to defer no time; delays have dangerous ends."

THE GREEKS AND HEALTH.—The general life of the Greeks was eminently hygienic, being mostly out-door, and under favourable conditions, persons even of high position taking part, not only in active occupations, but in labours that might be even considered menial by the unthinking. The honourable place that athletic games held is a point of resemblance between the Greeks and our countrymen that ought not to be lost sight of; the splendour of Greek literature, art, and knowledge is a sufficient answer to those who are afraid lest athletics should develop the muscles of our youth to the detriment of their brains.



## Healthy Houses

"A happy home must be a healthy home."—Anon.

### CLOSETS AND DRAINS.

By H. T. MUNDAY, C.E.

To those who are enlightened enough to be alive to sanitary considerations, but who do not know in what direction to look for help, a word of warning is not wholly unneeded.

It is not intended by this article to supply this guidance, but merely to offer a few suggestions, both to those who need advice and to those who sometimes very inadequately attempt to give it.

In considering the sanitary condition of any dwelling-house, the three principal points to which an intelligent householder should direct his attention are the drainage, the water supply, and the ventilation. The first is the most important, and is the only point to be dealt with in this article. Naturally, the closets would receive the first examination. If it is found that any closet in the house has constantly a foul and close smell hanging about it, it may at once be taken for granted that something is wrong. Many persons erroneously imagine that foul smells are normal to a closet, and that with the best arrangements they cannot be got rid of. Nothing can be a greater mistake. There is not the slightest reason whatever why the air of any closet should not be as fresh as that of any other room in a well-ordered household. Of course, smell in a closet cannot be avoided immediately after use, but it must be borne in mind that, however unpleasant, the smell of fresh feces is not dangerous, it is only after it has passed to the drain, and lies rotting in nooks and crevices on its course, that the excretions produce a foul and poisonous vapour. Smell is produced by minute particles of decomposed matter floating in the air, and, wherever it occurs, it is an infallible indication that foul decaying matter is present, either in a defective apparatus or in a leaky soil-pipe.

Now, nearly every old house throughout the country that boasts of a water-closet, and unfortunately many a new one as well, is fitted with what is known to the initiated as the "pan" closet. Briefly described, this ingenious arrangement for cultivating fever and malaise, is simply an earthenware basin dipping into a copper or tin dish, which acts as a trap. On raising the handle, this dish disappears by being pulled back, and its contents are splashed into a dark cavern, called a container, from which usually a most offensive odour immediately arises, and it is this which, as much as anything, creates the offensive smell already referred to as hanging about the neighbourhood of most water-closets. This container becomes, in time, so coated with filth that nothing short of fire can restore it to cleanliness. The inquirer can always satisfy himself as to the existence of the container by taking down the casing of the seat, &c., when he will see the earthenware pan fitted into the large cast-iron chamber. In nine cases out of ten this abominable receptacle is united to another arrangement equally bad, known as the D-trap, but being generally out of sight (unless, as sometimes is the case, it can be seen projecting bulbous-like from the ceiling in the room or passage below), is beyond the ken of the inquiring householder. It may, however, be certainly taken to exist; it would be little short of miraculous if it was not found in the loving company of the pan closet.

Below stairs, the servants' closet is usually of a different

type, but equally offensive. It consists generally of a deep V-shaped earthenware pan, to which the water is admitted by a small slot or opening in the side. The handle on being pulled up, causes a thin stream of water to gyrate languidly round the pan, quite insufficient, as a rule, to cleanse the sides or to remove paper, and still less the soil, which, as a natural consequence, lies rotting in the trap at the bottom, and accumulating in such a degree, that frequently an obstruction and overflow is the consequence. It may be laid down as an axiom, that any closet which does not properly remove the paper under a good flush, ought not to be allowed to remain in use. The foul condition of the servants' closet is often the cause of that heavy fetid odour which hangs about the basement of many houses, and from thence finds its way to the upper stories.

The enquiring householder will now be enabled by these suggestions to arrive at some idea as to whether his closets are or are not of a proper type; and, if they are not, no time should be lost in ordering their speedy removal.

But even if the closets should be found satisfactory, the sinks must not be overlooked, for deadly danger lurks even there. It is imperative that the *wastes* from all sinks, baths, overflows from cisterns, &c., should be *cut off*, and made to discharge with *open ends outside* the house. If the householder cannot find that such is the case—in other words, if, on tracing the various pipes from their origin in sink or cistern, he sees that they disappear mysteriously in the bowels of the earth, or in the walls or beneath the floors, he may take it for granted that something is wrong, and the assistance of a skilled man should be at once called in, or disease and death may soon be knocking at the door.

It should, however, be distinctly understood that the defects pointed out are the primary and obvious ones. Others not less important lie hidden too often beneath the surface, and require a practised hand to discover them. In the experience of sanitary engineers, nothing is more common than to find that the drains of a house are laid out with scarcely any attention to fall or jointing, and as no trouble is taken to design them to go outside the building, leakage and deposit rapidly take place, and hence foul smells rise through the floors and pervade the apartments, their source being utterly unsuspected.

Where, as in London, the great majority of houses are built in a row, it is, of course, utterly impossible, except by a concerted system of back drainage, to keep the pipes from passing under the house, and it is for this reason that everyone not living in detached dwellings should be more than usually suspicious of their sanitary conditions. Not that detached villas are necessarily free from danger in this respect; on the contrary, if there is a simple and effective method for draining a house, the builder is certain, of his own free will, not to take it, and unless a sanitary engineer has been called in the drains are almost certain to be found *under* the house. It is very desirable that householders should be cautious in their employment of associations or persons professing to make inspections, and to carry out improvements for small fees. It is very well known to all sanitary engineers and medical men that it is impossible either to satisfactorily investigate house property, still less to execute repairs or alterations except by a considerable expenditure of time and money. House drainage is essentially one of those things that must be well done or had better be left alone. The cursory examination of an hour, though it would show primary defects, will not reveal deep-seated ones. Drains must be opened and tested, levels must be taken, and accurate plans of basements, showing all particulars, should be pre-



pared. Without a systematic investigation of this kind, reports can only be superficial, and, if made in this way at the particular request of the householder, they should be accompanied with a statement of the fact, so that, if the employer desires to save his pocket at the expense of his health, the onus for such economy should be laid upon him, and not upon the sanitary inspector. Precisely the same remark applies to the execution of work under any report. Nothing should be left to the builder or contractor; every joint should be inspected, and every drain tested, before it is covered in, and every level given with the utmost accuracy. All this means expense and time, but the householder must choose between paying liberally or having his work botched and his health possibly ruined. Sanitary inspectors and engineers should be particularly careful to guard themselves from responsibility if not allowed by their employers to fully carry out their own suggestions. Illness and misfortune so continually result from imperfect workmanship that, unless the engineer is careful, the householder can come upon him for damages, for which, if he was hindered in his work through the parsimony of his employer, he is by no means responsible.

**THE HISTORY OF HEALTH.**—To trace the history of the search of the human race after health would be almost tantamount to writing the history of the race itself. An inquiry into early wanderings and gropings after health would be doubtfully useful, even if it were likely to be interesting, for it would bear to the hygiene of the present day something of the same relation that the visions of the astrologer bear to the astronomy of Newton. A careful examination of the position which hygiene now holds will, I think, justify us in alleging that it has made such advances as may fairly entitle it to take its place among the progressive, if not absolutely exact, sciences. Its literature has been said with truth to be amongst the oldest in the world. It has been proposed to place upon these walls the names of the illustrious dead who were pioneers and founders of our science. We cannot doubt that, in order of chronology, the first name to be honoured is that of Moses, as the author of the most complete and detailed system of hygiene in ancient times. We may be pretty well sure that the code of Moses was the outcome of the wisdom and experience of long past ages. Be that as it may, however, we cannot but admire the excellent precepts laid down for the cleansing and purifying of house and camp, for the security of pure water, for choice of good and wholesome food, for the isolation of the sick and the unclean, and for the destruction of refuse. It would not be too much to say that a fairly strict adherence to the Mosaic law would have preserved mankind from many of the disastrous plagues which have afflicted it. During the Middle Ages, the Jews enjoyed a remarkable immunity from outbreaks of epidemic disease—an immunity which still distinguishes them in our own time. So little, however, was the real cause of their healthiness appreciated by our predecessors in the bad mediæval times, that it was held an irrefragable proof of their demoniac machinations.

**THE CLOTHING OF YOUNG CHILDREN.**—If a hot day come in January, throw off the thick petticoat and hood; and directly the wind shifts, put them on again. On some bleak August day, allow the child its sealskin, despite the month's name; to-morrow, no cloak at all may be needed. Many years' experience assures me that no other plan can be wise in such a climate as ours; and while rashness is blamable, over-prudence may be quite as mischievous. Children are made delicate by coddling.

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

#### VII.—HEALTH-RESORTS DESCRIBED (*Continued*).

**CRIEFF**, Perthshire, 440 miles from London, a health-resort noted for the purity of its air, and for the salubrity of its climate. The typical characters of mountain air are found in full development at Crieff, residence here being highly suitable for invalids and others, who do not agree with the stronger bracing air of the sea. Dyspeptics find such a resort as Crieff to agree with them, because the demands made upon their digestive powers are not so great as those resulting from a seaside stay. Crieff is reached from London by London and North-Western Railway, by the Great Northern Railway, and by the Midland Railway. The season extends from July to September. Hotels: Drummond Arms, and Royal. A large and well-appointed Hydropathic, also exists. Return fares from London, 12s. 6d., 94s., 68s. 8d. Population about 5,000.

**CROMER**, Norfolk, 142 miles from London, is situated on the sea. Population about 1,700. Very extensive sands exist. The air is bracing and invigorating, and agrees well with those who require stimulus after overwork. Hotels: Hôtel de Paris, Bellevue, and Tucker's. Return fares from Liverpool-street, London, 36s. 10d., 28s. 10d., 22s. 8d.

**CULLERCOATS**, Northumberland, a fishing village; population about 1,500. Easily reached from Newcastle-on-Tyne. Air, bracing; beach, sandy. Accommodation mostly in apartments.

**DALE**, Pembrokeshire, situated near the mouth of Milford Haven harbour. 285 miles from London by Great Western Railway, which runs to New Milford, whence Dale is 8 miles distant by sea. The beach is sandy, and the bathing excellent.

**DARTMOUTH**, in Devon, 230 miles from London, situated on the Dart. Population about 5,000. The beach is rocky; bathing, however, is practicable. The surrounding scenery is very fine, and the air clear and bracing, with a prevailing mildness, that agrees well with invalids, who otherwise might avoid the sea. Return fares by Great Western Railway, 67s. 6d.; 48s. 3d. Hotels: Castle, Royal Dart Yacht Club, Commercial.

**DAWLISH**, a famous Devonshire seaside resort, 206 miles from London. Population about 4,000. The town lies in a pretty valley, and is 12 miles from Exeter. From the north and south-west winds it is well protected. The winter is very mild, and hence Dawlish may be frequented by invalids and others who require an equable winter temperature. Liver and skin affections are benefited by a stay here. The bathing in summer is good. Dawlish is more humid than Torquay, and the spring is apt to be very cold. Hotels: Albert, Hatcher's, York, Royal, &c. Return fares from Paddington, 58s. 9d., 42s. 7d.

**DEAL** (Kent) and **WALMER** lie together, and are distant 91 miles from London. Population about 8,000. Deal is 9 miles from Dover, and resembles that town in its health-characters, the climate being suitable for those who require



a bracing air. Hotels: Royal, Queen's, Walmer Castle, &c. Return fares, 25s. 3d., 18s., 11s.

**DOUGLAS** (Isle of Man), 70 miles from Liverpool, the shorter sea routes being *via* Barrow and Silloth. The population is about 15,000. Douglas is a large and important town, largely frequented by visitors in summer. A very fine bay exists, and the esplanade runs round this prospect. The beach is suitable for bathing, and machines are plentiful. The climate is bracing and clear. The rainfall is not excessive, and, for an ordinary holiday, the air and surroundings are eminently suitable. Hotels: Castle Mona, Imperial, Fort Ann, &c.

**DOVER**, Kent, 76 miles from London, is reached by the London, Chatham, and Dover Railway and by the London and South-Eastern Railway. The town lies in a valley of the chalk, and is protected from easterly winds. From May to September inclusive is the best season for residence here. For delicate children of a scrofulous tendency, for chronic bronchitis, dyspepsia, for liver-congestion, and for nervous debility and overwork, Dover is highly recommended. The winter is often fine, but cold. Hotels: Lord Warden, Harp, King's Head, Shakespeare, Hôtel de Paris, Esplanade, Royal. Return fares from London, 33s. 6d., 25s., express; or 31s., 22s. 6d., 12s. 5d. Population about 28,000.

**DUNBAR**, Haddingtonshire, a sea-side resort, situated on the North British main-line to Berwick and Newcastle, and on the East Coast route from King's Cross, 370½ miles from London. Population about 4,000. The air is very bracing. Hotels: St. George, Anderson's. Return fares, 109s. 3d., 82s. 6d., 61s. 1d. Dunbar is about an hour's journey from Edinburgh.

**DUNOON AND INNELLAN** (Argyllshire), are situated together on the Frith of Clyde. Population about 4,000. The air is bracing, but is also noted for the mildness which characterises most of the west-coast resorts of Scotland. Bathing is plentiful. Dunoon is readily reached by steamer from Greenock, to which the London lines—Midland and Great Northern Railway—run through carriages. Hotels: Argyll, Queen's, Royal. Kirn and Hunter's Quay may be included in Dunoon.

**EASTBOURNE**, in Sussex, is 65 miles from London, and lies between Brighton and Hastings. Population about 22,000. The town is well sheltered by Beachy Head and other elevations. It has attained a high celebrity as a health resort. The climate is of the mild type; the spring is cold, but from September to January the air is bracing. Eastbourne, in addition to its value as a summer residence, is said to be adapted for cases of consumption and heart-disease, whilst scrofula, and the "wasting diseases" of children are benefited by a stay here. In nervous diseases this town is also recommended. Hotels: Grand, Sussex, Gildridge, Burlington, Anchor, Park View, Pier Family, Queen's, South Down, &c. Return fares, 23s., 19s., 14s., 10s.

**EDINBURGH**, Mid-Lothian, 397 miles, *via* Great Northern Railway, from London, possesses a climate which, though liable to sudden change and to rainfall, is yet bracing and salubrious. Special parts of this beautiful city are well protected from cold winds; and the Frith of Forth, with Trinity, Granton, Newhaven, Leith, Portobello, and other seaside resorts, are within easy distance. Principal hotels: Royal, Edinburgh, Balmoral, Palace, Royal British, Alexandra, Roxburghe, Waterloo, Waverley Temperance. Return fares from London, 109s. 6d., 85s., 50s.

**EXMOUTH**, Devonshire, is 182 miles from London. The new part of the town stands high. The climate is bracing, but in winter the cold and variable weather is said to make residence here risky for those subject to chest-affections.

The lower part of Exmouth is sheltered, but is somewhat damp. The beach is sandy, and bathing is good. Population about 7,000. Hotels: Beacon, Clarence, &c. Return fares from London, 56s., 41s. 6d., by London and South-Western Railway from Waterloo.

### A LADY ON TRICYCLING FOR LADIES.

THE growing importance of the tricycle as a means of rational exercise threatens to place the bicycle in the shade. More especially is this the case when we remember that the tricycle is adapted for both sexes, and that it is rapidly coming to the front as a practical solution of the important question of a fitting exercise for women. As many of our lady-readers are interested in the question of tricycling, we have pleasure in quoting the following passages from an admirable article in *Belgravia* for the current month. The paper proceeds from the pen of Mrs. Fenwick Miller, whose efforts to diffuse a knowledge of physiology and health-knowledge are widely known.

"It is surely, therefore, not too much to claim for the tricycle that it is the means evolved from the intelligence of man for the adaptation of his individual circumstances to his general surroundings in this matter of exercise. The increased strain of modern life has added greatly to the number of people whose worries should be met by exercise of a free, regular kind, not too violent, but calling for a modicum of mental attention; the tricycle is the product of this necessity.

"In tricycling the body is lightly supported on a saddle, and thus the lower limbs are freed from the effort of its support, and are able more easily to exert their motor power. The muscles of the upper part of the body are called into play by the work of guiding the machine by its handle; and in going up hills the body is steadied, and great additional force is put into the legs by pulling hard on the two handles with the muscles of the arms. Enough attention is required to steer the machine, even along a quiet country road, to distract the mind from a *train* of thought. The rapidity of the motion not only changes the landscape quickly, but also brings a refreshing breeze playing about the face, and filling the lungs. The exercise can be made slow and gentle, or quick and powerful in an instant. All these advantages combined give to the use of the tricycle an exhilarating and inspiring influence, which must be experienced before it can be realised. 'I call mine "L'Allegro,"' writes Sims Reeves; 'the speed at which one is enabled to get along makes one feel quite joyous.'

"There is no reason to believe that tricycling is in any way injurious to even delicate persons. Middle-aged men, with that tendency to degeneration of the muscles into fat which is one of the dangers of their period of life, will find tricycling assist the heart's action rather than strain its powers. Nearly all chronic complaints will be benefited by this form of exercise. For ladies, I believe it to be especially suitable.

"The ladies of our Royal house have set a good example in this matter to their sisters. The Princess Mary, Duchess of Teck, took the initiative, and her report of the value of the exercise has apparently induced her illustrious relatives to adopt it. Her Majesty recently sent orders to Coventry for two machines for the use of her young granddaughters, the Princesses of Hesse; the Princess of Wales gave her eldest daughter a tricycle for her birthday present last year; the Princess Louise rides a tricycle herself. Many hundreds of ladies have followed the fashion thus powerfully set; and it is to be hoped many thousands more may quickly do so.



"The special value of tricycling for ladies appears to me to be the absence of jolting and the support of the weight of the body. These are points of the highest importance.

"It is important for beginners on the tricycle to avoid over-exertion. It is well to commence with a ride of only about half-an-hour's duration. The time may be extended day by day, according to the feelings of the rider; and in most cases it will be found that, after three or four weeks' practice, twenty miles can be accomplished at a stretch, with less fatigue than would be felt from walking one quarter that distance.

"Ladies should be especially careful not to do too much, and should, indeed, take notice that there are times when they should avoid not only this but all forms of bodily exercise, as far as possible. I have not yet known of any evil results from neglect of this care as regards the tricycle; but when I was in medical practice I saw so many cases of mischief from overworking in this way at the sewing-machine, that I feel bound to give this caution. I believe that women are more apt to 'over-do' themselves than men; they are more likely to go to extremes in either direction—and an excess of muscular exertion may do as much injury to their delicate physique as their neglect of exercise has heretofore done.

"The weight of a tricycle is a very important point; every pound added to it increases considerably the exertion of the muscles of the lower limbs, and thus diminishes the ease and rapidity of movement which form so large an element in the pleasure of tricycling. The machines must, of course, be very strong to stand the wear and tear of the road, but they must also be light. These two requirements can only be met by the use in the construction of the machines of the best material and by the careful examination and testing of each part before the tricycle is put together. The principal manufacturers are continually introducing improvements in their machines, with a view to securing a decrease of weight without any diminution in strength. It seems, however, that the limit must now be almost touched. In the works at Coventry of Messrs. Hillman, Herbert, & Cooper, the makers to the Princess Mary, I saw some beautifully-finished tricycles, strong enough to carry a man of fifteen stone, and yet so light that I could easily lift them up from the ground. The 'Premier' racing tricycles of these makers weigh only fifty-four pounds.

"Very cheap machines cannot be made so light as this, and yet strong; the best material and the most skilled and most carefully supervised labour must be given their market price. Purchasers whose means compel them to buy the cheaper machines must, therefore, not expect to get very light weights, except at the expense of safety and durability. Those who can choose, however, should take 'the scale' of a machine into consideration.

"Another point worthy of attention is the employment of what are called 'ball bearings.' This means that there are tiny balls interposed between the crank-shaft and the portion of the wheel which surrounds it; these reduce friction, and save labour, shaking, and wear and tear—they should, therefore, be always ordered.

"'Gearing-up' a machine means that the large wheels are turned once and a little more by each revolution of the treadles; this makes the work harder, but the progress quicker; 'gearing-down' is precisely the reverse. Ladies will generally prefer a machine either 'geared down' or 'geared level.'

"A saddle, or a seat well cut away at the sides, will be found much superior to a straight seat like a form. The saddle should be on a good suspension spring.

"The treadles and the saddle are both movable in a tricycle, so that they can be adjusted to the height of the

rider. They should be so placed that the feet can just touch the treadles when they are at the farthest point away in the course of their revolution.

"'Where can I keep one if I get it?' ask many residents in towns, who have neither stables nor back doors. In several kinds attempts are made to meet this difficulty by having the wheels constructed to come off, and by various other devices. The greatest success is, I think, attained by Messrs. Bayliss, Thomas, & Co., of Coventry, who make a folding tricycle which is perfectly safe, and which, by a very simple action, doubles up when required to a width of 20 inches, the operation only taking as many seconds. The strength of the machines of these makers is shown by the fact that the Post Office has adopted their 'Excelsior' tricycle for country use; the postmen flit over their long-distance rounds on these easy steeds, which are painted the official scarlet, and many of the tricycles have covered as much as 4,000 miles without needing repair, as an official declaration states. Thus, there need be no apprehension as to the stability of the remarkably simple folding 'Excelsior.'

"A few last words on the health-and-good-spirits side of the question: on the two points of food and dress.

"One benefit which is soon felt in tricycling is the increase of appetite which it causes. The way in which this effect is brought about will be clear from the explanation given earlier in this paper of the *rationale* of exercise; when the factory is busily at work, of course it requires, and can take in, full supplies of fresh material. The first operation to be performed upon that new material, however, is digestion; and the general rule previously mentioned, that muscular exertion draws the current of the circulation away from the internal organs, shows why it is not favourable to digestion for exercise to be taken immediately after a good meal. An hour or so should elapse between eating and tricycling; if this be not observed, difficulty and slowness of digestion will effectually damp the spirits.

"The dress should be light, and easy in every part. Ladies will find that they must eschew tight stays, and that they cannot endure a great mass of heavy skirts dependent from the waist. I have seen a lady tricycling in a riding habit, and it answered very well; but a special dress is a trammel which I hope ladies generally will not adopt. A kind of false flounce put upon the front and side breadths of an ordinary walking dress, so that it can be buttoned up when walking and let down to conceal the feet while tricycling, is elegant, though not essential. It is generally admitted, however, that a modern woman's dress is cumbersome, and opposed to common-sense, and therefore to the laws of hygiene. Shortened skirts—and yet more shortened riding-habits—are tokens of a favourable change in this respect, which reflects the spirit of the times as much as tricycling itself. If the use of the tricycle helps women to achieve a more rational and healthful kind of ordinary costume, it will indeed have proved serviceable, not only to the women of our day, but to their sons and daughters of coming generations. Meantime, ladies who tricycle must not pinch.

"There appears to be a general agreement among tricyclists, as among athletes generally, that alcoholic drinks are injurious, and that water and weak tea are the best of beverages for health and good spirits."

CHILDREN in schools should be carefully watched in reference to their eyesight. They should not be allowed to hold their books or work nearer the eye than fourteen inches. Inattention to this rule is a frequent cause of eye-affections amongst children of nearly all ages.



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**MEDICAL HERBALISTS.**—A typical example of the evil results of the ignorance of herbalists, and the dangers to the population involved in their practice, is afforded by the result of an inquest held at Leicester on the body of Charles Hanger, boot and shoe maker, who died from an overdose of opium. Deceased suffered from a chest complaint, and on a Sunday consulted a herbalist named Whiteley, who prescribed for him. On the next Wednesday, Hanger asked Whiteley to give him something to induce sleep. The herbalist gave him a pill containing two and a half grains of opium, which he took, became unconscious, and died in the evening. A verdict that death had resulted from bronchitis and an overdose of opium, indiscreetly administered by Whiteley, was returned, and he was censured by the coroner accordingly. Hitherto Parliament has refused to consider, and statesmen have declined to accept, any enactment levelled at herbalists, as such, and have insisted on the principle, "*caveat emptor.*" If the public choose to employ a person who has no medical degree, and who does not falsely assume to possess one of the medical titles consecrated to registered medical practitioners, the State has hitherto declined to interfere between the quack and his patrons. This attitude of the political and legislative mind is very distasteful to a certain number of our profession; but the Royal Commission, and many successive Governments, have declined to take any other view. It has been the basis, indeed, of the Medical Acts up to the present time. Their preamble sets out that they aim at preventing the false assumption of titles by medical imposters, and at enabling the public to distinguish between duly educated and qualified practitioners on the one hand, and unqualified practitioners on the other. Mr. Mundella recently expressly refused, as all his predecessors have done, to go further, and to absolutely prohibit unqualified practice. We wish we could hope that such cases as that we now cite would operate to induce our legislators to take a more stringent view, and to protect the public even against their will. But the hope is, we fear, but a faint one; the current of public opinion is, in some places, setting rather strongly against what is now often hastily denounced as medical tyranny. This case occurs very opportunely for demonstrating the evil effects of the absence of restriction upon herbalists, and the unwisdom of those who choose to consult them.—*British Medical Journal.*

\* \* \*

**SURGICAL APPARATUS AT POLICE STATIONS.**—At the suggestion of Mr. Henry G. Shorter, the Watch Committee of Hastings has placed a hamper containing splints, bandages, and other simple requisites for surgical emergencies, at each of the police-stations in the borough. Many of the policemen have received a certain amount of instruction in affording "first aid to the injured" from the St. John Ambulance Association, and to them the apparatus may be useful; to the surgeons, also, who are called to the police-stations to treat accidents, such hampers will be a great convenience. We commend this admirable proposal to the watch committees of other town. It entails very slight expense, and its adoption may prevent much needless suffering.

## Our Bookshelf

"Reading maketh a full man."—*Bacon.*

*Tea: the Drink of Pleasure and of Health.* By W. GORDON STABLES, C.M., M.D. (London: Field and Tuer.)

IN this æsthetically adorned and very handsome volume (with a frontispiece after George Morland) Dr. Stables discourses pleasantly and chattily about the "fragrant Bohea." Dr. Stables is no advocate for the injudicious use of tea; on the contrary, he warns us that over-indulgence in this stimulant is highly injurious to health. What should be known really about tea is that it is not a food, but merely a stimulant. The working classes, who at present spend a large part of their earnings on teas in the light of food, should replace tea by cocoa, which is a truly nutritious food. Tea, in its proper place, is an adjunct to other foods; and its use in aiding the work of the skin and lungs, and also as a stimulant, forms a highly important addendum to our social enjoyments. Dr. Stables's book deals, in nine chapters, with the complete history of tea. Even fiction, or at least chatty reminiscences, enter into the volume. Tea-culture is also alluded to, and the chapter on the making and taking of this beverage will certainly claim attention from all interested in this popular drink. It is needless to add that the typography and "get-up" of this book—coming, as it does, from the press of Messrs. Field & Tuer—form a model of elegant printing and publishing enterprise. We notice but one slip, on p. 54, where Dr. Sydney Ringer's name is printed Ringar.

*The Mineral Waters of Europe, including a short description of Artificial Mineral Waters.* By C. R. C. TICHBORNE, LL.D., F.C.S., &c., and PROSSER JAMES, M.D., M.R.C.P. (London: Ballière, Tindall, & Cox.) 1883.

THIS is a most valuable guide to all interested in the nature and composition of the mineral waters to which we are accustomed to resort for the cure of disease and the re-establishment of health. Dr. Tichborne has devoted special attention to the accurate analyses of the various waters described, and shows that many of the former analyses were greatly in error. Over one hundred new analyses are included in this book—a fact of itself sufficient to ensure its high value to medical men and to the public at large. Dr. James has added an interesting account of the medicinal action of the various waters, and it need hardly be said that such a contribution must materially enhance the value of the volume. The book must obtain a special importance at the present time, when the native waters of many springs are imported into this and other countries as medicinal agents and as ordinary beverages. Armed with this volume, no one need resort to such waters, in any ignorance of their action. The book, besides, contains a large amount of details which possess an interest for the chemist and geologist. As a guide to a knowledge of European mineral waters it stands unrivalled.

*Deep Breathing, as a Means of Promoting the Art of Song, and of Curing Weaknesses and Affections of the Throat and Lungs, especially Consumption.* By Sophia Marquise A. Ciccolina. Illustrated. Translated from the German by Edgar S. Werner. (New York: M. L. Holbrook & Co.)

WE have one great objection to this book—namely, that it is unduly extended. The authoress might have said all that was worth saying—and have put all that is worth reading in this volume—on the topic of deep breathing, in its hygienic



aspects, in half the space occupied by the volume as it stands. She runs into little fits of exuberant joy over the gifts of song, gives reminiscences of personal history, and discourses on anything and everything but the "deep breathing"—until, at last, in page 28 (there are only forty-eight pages in the work) we come upon the topic the authoress has at heart. From page 28 to page 37, deep-breathing is discussed; then come two appendices, one of breathing-statistics, to be found in every manual of physiology, and one a laudatory letter from an admirer of the system described by the authoress. The book, as it stands, is an unblushing attempt at book-making, and resembles a nut with a large amount of shell but possessing a very infinitesimal kernel. The authoress claims that deep-breathing is a panacea for most of the chest-ills to which humanity is heir. Doubtless, there is some degree of truth in the assertion that frequent deep inspirations, by bringing into play parts of the lungs not over well used, aids in strengthening these organs; but this idea is one which is far from new. It forms the basis of all rational gymnastic exercises which have for their aim and object the strengthening of the chest. The book tends to elevate the "deep-breathing" idea into the light of a process or exercise calculated to abolish almost every chest-ailment known. We cannot subscribe to the correctness of this notion; although we admit that exercises which encourage full inspiration, wisely used, are highly beneficial to both sexes.

*The Sanitary Contrasts of the British and French Armies during the Crimean War.* By SURGEON-GENERAL T. LONGMORE, C.B., &c. (London: C. Griffin & Co.) 1883. THE author, in this brochure, enters upon an interesting comparison and reminiscence of a period when the allied armies passed through experiences of rigour, disease, and discomfort such as, it is to be hoped, no troops will again be subjected to. Dr. Longmore will have the sympathy of all authorities with him when he says that "the whole professional history of the Crimean War, indeed, will afford a fertile source of instruction to army surgeons for all time." The root of the evils seen in the Crimea, according to our author, was want of preparation, for which he rightly, we think, says governments and not individuals were blamable. He gives reasons why the French army was in so much better health during the first winter than the British army; the chief being the better organisation which placed the French in the field well supplied with clothing, tents, ambulance, &c. During the second winter, the French army suffered severely, whilst our own troops suffered less than during the previous or first winter. The causes of the French ailments were the rigour of the winter, the excessive work, infection of the camps, coarseness of the food, want of vegetables, &c. The record Dr. Longmore presents is a highly melancholy one in many respects; but it has the all-important use of showing those in authority that to send an army into the field is a serious matter in a health respect, and one which demands rigid organisation and administration of no ordinary type. If Dr. Longmore's book should serve to warn us of possible errors in the future of military service, it will have accomplished a high and worthy mission.

*Babies: How to Rear them.* By F. A. FAWKES. (London: W. Swan Sonnenschein & Co.) THIS is a useful little pamphlet, although the author tells us nothing new or original. From such a manual the "religious and educational" side—itsself a large topic—might well have been omitted. The author there becomes highly effusive.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTERS TO THE EDITOR.

### FAITH-HEALING.

SIR,—The interesting article upon this subject which appeared in your issue of June 29 would at first sight seem to throw open a very wide field for discussion. A careful consideration of the circumstances therein detailed, however, leads me to the conclusion that these alleged cures, many of which have probably a broad basis of fact, are nothing more than instances of the very remarkable power of mind over body. The whole subject has been treated at some length by my father, Dr. Carpenter, at pp. 683 to 688 of his "Mental Physiology" (1874 edition), and a large collection of evidence of such cures is to be found in Dr. Tuke's "Illustrations of the Influence of the Mind upon the Body in Health and Disease."

These cures appear to depend upon the attention of the patient being firmly fixed upon the ameliorating measures employed, whatever they may be, with the confident expectation of a cure as the result of these measures. There is, perhaps, no more satisfactory example of the influence of this state of expectant attention than is afforded by the "charming away" of warts, as to which the testimony is overwhelming. It may be urged that "nervous" diseases are those which are chiefly affected in this way. There is, however, abundant evidence that diseases like scurvy and gout, which seemed to depend upon an abnormal condition of the blood, may also be cured by similar measures. Dr. Tuke gives a curious instance of the arrest of an epidemic of scurvy in the siege of Breda, in 1625.

In the early part of the present century, Perkins's "Metallic Tractors" acquired considerable reputation, and there is no doubt that some remarkable cures were effected by their agency, which was supposed to be "galvanic"; a careful investigation showed, however, that two pieces of wood, painted to resemble them, had an equally curative power, the faith of the patient being the condition required.

This last example I have specially adduced, because my attention has recently been directed to the electrical efficiency, or otherwise, of several of the medico-electric appliances offered to the public. The results of these investigations, which are still in progress, were undertaken specially in the interest of the readers of HEALTH, and will, with your permission, Mr. Editor, shortly be laid before them in a series of articles. In some instances, it is quite impossible that any electric currents could be set up by the apparatus in question, and yet there is often evidence of a trustworthy character that much benefit has been derived from its use. In such cases, the cure is to be attributed to this mental influence, and not to the inherent virtue of the apparatus itself, which, if used on an animal, for example, or on a sceptical patient, would not have the smallest effect.—I remain, Sir, yours faithfully,

WM. LANT CARPENTER.

36, Craven Park, Harlesden, N.W., July 6, 1883.

### VEGETARIANISM.

SIR,—In reply to Mr. T. R. Allinson, in your issue of the 22nd of June, if "most naturalists" have admitted (a fact I much question) that the natural diet of man is a vegetable one, I don't think that they admit that it would be advisable for Englishmen in England to abstain from meat altogether and adopt a purely vegetable diet.

Mr. Allinson remarks: "We vegetists say that man does not attain to his full mental and bodily vigour unless he abstains from



flesh." I should like to ask the "vegetists" to point out some of the individuals who subsist on a vegetable diet, and who have attained to "full mental and bodily vigour."

I cannot see that because a vegetarian, having adopted a mixed diet, and then becoming dull and heavy in place of his former lightness and activity, is a proof that, when he was a vegetist, he had attained to his full mental and bodily vigour. Of course, he *may* have done so.

Concerning the cattle (which, he says, would not trouble us long), I don't think we could do very well without, for although we might get materials from the vegetable world which would do as a *make-shift*, yet what we should do without leather and wool in these days I cannot see. Vegetarians say that, when the want was felt, inventions would be made. I think it would be well if the would-be inventors set to work at once, and invented something that would do equally as well as leather, which then might be used less than it is now.

They tell us that we might keep a number of animals, just to supply the demand in leather and wool; but we should require to keep as many as we do now, and if they were not used as food, they would have to be killed just the same, and then the carcasses buried, and where the places are to be found to bury many thousands of cattle I cannot myself see. I am sure there are quite enough graveyards about at present, without making cemeteries for cows and sheep. He says that "Surgeon's" illustration at the finish does not hold good, but I think it does. It does not follow because we cannot eat bones, skin, horns, &c., that they are wasted; on the contrary, as every one knows, they are almost as important as the meat itself.

W. K. PARKIS.

Birmingham, July 9.

#### HEALTH AND ECONOMY.

SIR,—The following appear to me to be sufficient reasons for avoiding all preventible illness. We should bear them in mind continually as guides to health:—

1. Any illness, however mild, causes loss of energy.
2. Loss of energy causes loss of time.
3. The sick inmate of a house upsets the work of others in the house.
4. Illness is expensive.
5. Money spent in illness that is preventible is practically thrown away.
6. A slight illness may develop into a very serious one.
7. All who believe in the word "Health" should use every possible precaution to avoid illness in themselves and those around them.
8. Looked at from any point of view, every preventible illness is injurious.
9. Money spent in avoiding illness is put into a bank that pays a good dividend.
10. Time spent in avoiding illness is well spent.

I am yours, &c.,

E. F. T. BENNETT.

#### QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending HEALTH to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.]

We must also request correspondents who write enclosing stamps for copies of HEALTH, to address their inquiries to the Publisher, and not to the Editor.]

#### GENERAL.

[Those of our readers who have been "favoured" by the attentions of quacks, and who have in their possession, or may be able to procure copies of quack pamphlets and publications, will confer a favour by forwarding them to us. We shall also be glad to receive (authenticated by names and addresses, not for publication, but as a guarantee of good faith) the written experiences of any readers who have been mulcted by the quack fraternity to enable us to discharge a public duty in the exposure of quacks and their doings.]

E. V.—It is often impossible to gain an accurate knowledge of the soils of resorts. The relation between soils and health is, no doubt, intimate; but not thoroughly determined as yet. The quality of air and climate, as they affect health, is equally if not

more important; and these details we give, as you will have observed.

J. H. BALDOCK.—Do you not charge your ordinary over-counter prices when a prescription is brought you from HEALTH? If you do so—and you don't say to the contrary—what have you got to complain of? You must be labouring under some extraordinary and unbusiness-like delusion if you charge one price for a prescription written in Latin and another price for one in which the details are set forth in plain English. The quantities ordered in our pages are those of ordinary prescriptions. It is your own "look out" if you fail to make your ordinary and rightful profit out of them.

E. J. C.—No; we have no connection with any other journal, and no journal can infringe the copyright of our title—HEALTH.

B. W.—See reply to E. J. C. The person you name has no connection with or interest in HEALTH. He seems to have quite enough to do, as you remark, to manage his own affairs.

JAMES JOHNSTONE.—Messrs. Norman's address is 37, Walbrook, London, E.C. They are the makers of the "B B B Insect Destroyer," which we can recommend.

F. LAST.—What do you mean by a "Graph?" If, as we suspect, you mean a copying apparatus, please address your inquiry to the *English Mechanic*. The compound used consists of flour paste, glycerine, and other materials.

#### SANITARY.

T. R. STREET.—Why not write direct to the Editor of the *Lancet* seeing the apparatus was mentioned therein? You might also write to Messrs. Armfield to inquire.

#### MEDICAL.

EDWARD (Dublin).—See our paper in HEALTH, No. 12, page 183.

CAPTUS AURIBUS.—Try the effect of a drop or two of glycerine placed in the ears at night, the ears being stopped with a little wool. Then syringe occasionally with soap and lukewarm water. To your other queries we reply—1, Yes; 2, Yes: you are apt to take cold by frequent head-washings; 3, Don't overdo exercise; 4, See our notice above; 5, Attend to your general health.

TOTAL ABSTAINER.—Try a little "Æsculap" water occasionally; and let your food be nourishing but light, such as soups, milk, puddings, &c. Avoid eating suppers.

P. Q. M. Q.—You seem to be generally "out of sorts" and constitutionally nervous. Try the tonic you name; it will do you good. But your cure, so far as we can judge, must be as much of mental as of physical kind.

HEALTH (Oban).—See notice to "P. Q. M. Q." above. There can be no cure for "desponding thoughts" except a thorough renovation of your physical health. We should say, try a complete change for a month or two. Try Fellows' Syrup of the Hypophosphites,—a teaspoonful in water thrice daily, and cease taking the unknown and probably quack pills.

DON RICARDO.—No, we do not regard your case as at all one regarding which we would feel anxious. You seem well in health, and you mention no symptoms which should alarm you. The "pulsations" you mention are probably due to nervous action, which the tonic recommended to "Health" above may benefit. Try what a holiday inland will do.

IKE.—If you are exposed to cold after your hot bath, it is well to take a cold douche thereafter. But if at night, and you go to bed after the hot bath, there is no need for the cold. You take the hot bath at too high a temperature.

C. M. P.—You need not be alarmed. Take the tonic recommended to "Health" above. Try a cold bath in the morning, if you have sufficient reaction. Don't bicycle for a time. The person you name is a quack. Kindly send us any pamphlets which you may have, emanating from him.

STULVUS.—See our papers on the "Hair," and choose any of the stimulating lotions therein mentioned applicable to your case. See also replies to "C. M. P." and "Health" above.

D. DICKSON.—Try what a lotion of carbolic acid half an ounce, and glycerine one ounce, will do—to be applied daily, rubbed into the affected part. Read our papers on the "Hair."

ORTOGRUL.—You might be improved by some simple and effective tonic, such as that recommended to "Health" above. See a surgeon, as there is probably a local cause for the pain. There could be no harm in trying belladonna as a local application.

D. F. E.—The probability is that the appliance you mention produces no electricity whatever. We should strongly advise you to consult a physician, who alone, by a thorough examination of all your symptoms, can perfectly advise in your case.

R. JOHNSON.—You are in a weak state of health apparently. Consult a physician. You do not give particulars of your food; but we should advise you to try what a change of dietary to vegetables, milk, and fish would do, giving up (for a time) meat and all



stimulants. Avoid eating late at night, and take gentle exercise in the open air after your work.

**L. W. WEBB.**—Give up the small-tooth comb, and don't overdo your exercise. We recommend you to try the stimulating lotions recommended in *HEALTH*, page 135.

**RATCLIFF.**—See what is said in the papers on the "Hair" regarding *Acne*, *HEALTH*, No. 11, page 167. You must attend to your general health.

**NEPTUNE.**—1. Yes; most healthy persons are, especially when well nourished, and the mind is not worried or fully occupied. 2. Apparently yes; you suffer from no disease. If you have had any quack pamphlets sent you, please forward them to us.

**"A STITCH IN TIME."**—We should advise the healthy person not to sleep in the same room as the consumptive; and we should disinfect the room regularly with a "Sanitas" vaporiser. The room ought to be well aired continually.

**S. U. F. FERER.**—We think you might with advantage take a little Fellow's "Syrup of the Hypophosphites" occasionally—a teaspoonful twice a day for a week, then leaving off for a time. The symptoms you mention are common enough, but are not a sign of disease. So far as we can see, you require a tonic course of living, which should include a change to the seaside. The apparatus you mention is credited, by French physicians especially, with inducing symptoms such as you say occur in your relative. We shall be glad to advise further, if necessary.

**LUCKNOW.**—We should say, take more exercise in the open air. Lice are well known to appear in the hair in weak states of the health. Try some "white precipitate ointment," and attend strictly to cleanliness.

**A WORKING MAN.**—You should not be over-anxious. See reply to "Health" in present number. The cure is as much moral as physical. Give him plenty to think about. The patient's age should have taught him common-sense.

**F. B.**—Symptoms those of debility from dyspepsia. Cure includes:—1. A change of air. 2. A change of diet from present food. 3. Small doses of "Æsculap" mineral water, as a mild aperient. The "specks before the eyes" are a frequent concomitant of liver and digestive disorders.

**YOUNG COUNTRYMAN.**—Your smoking possibly causes the bad taste. Don't eat late at night; and see advice to "F. B." above.

**CHRYSLIS.**—It is inadvisable to take any one remedy continuously—if for no other reason than that the system becomes tolerant of it. You should certainly not become habituated to the drug you name. A form of tonic we regard as of much higher value is that mentioned in the reply to "Health" above.

**E. W. WILSON.**—1. The best drink for you depends on the exact nature of the calculus. A physician knowing this latter fact can alone advise you, as the proper drink varies in this affection with the mineral composition of the calculus. Consult a physician. 2. To your second inquiry, we may reply that possibly the cure of the ailment you mention will benefit your health at large. Yours is a case for skilful treatment.

**DENS.**—1. We cannot say whether there are good dentists abroad. In the towns there are certain to be dentists, but "up country" there is little likelihood of your finding professional men. 2. Too frequent cutting and injudicious paring. Exercise discretion in the use of knife or scissors.

**JOHN MERRILEES.**—See reply to "L. W. Webb" in present number of *HEALTH*.

**ENOCH.**—Give up taking tea for a time. Try milk instead, or cocoa. Rest after meals. Cold bath in morning if you can bear it. Tea-dinner is a great mistake. Avoid overwork at night. Don't eat just before going to bed. Small doses of "Æsculap" water as a mild aperient.

**NOSLIW.**—We think you may possibly benefit if you will give vegetarianism a fair trial. Not that you are to weaken yourself, should your digestive powers be feeble, but that you should try the effect of a more completely vegetable dietary than you may yet have attempted. The treatment prescribed you for the skin affection was perfectly in accordance with medical science. Have you tried tar ointment, and a daily warm bath (with two ounces bicarbonate of soda to each gallon of water)? Ointment of chrysophanic acid (80 grains to the ounce) rubbed in for a few minutes, thrice daily, has benefited chronic cases.

**L. E.**—We think you might derive benefit from wearing one of Pulvermacher's (194, Regent-street) chain belts, which are the only genuine electrical appliances of the kind we know. We have seen benefit accrue from their use. Try also hot salt-water baths occasionally. Yours is one of those cases in which a change to the seaside—a warm, mild, yet bracing atmosphere, e.g., Folkestone—often does good. Try also the effect of rubbing in warm oil over the painful muscles, and write again if unrelieved.

**JANE MILLER.**—1. Rest as much as you can after food. 2. Try milk and soda-water with ice, and let the diet be light. Attend also

carefully to the state of the stomach. We should strongly recommend you to consult your doctor, who will prescribe remedies known to have an effect in controlling the sickness.

**E. SEDAEM.**—1. Cannes has a moist, sedative climate—more so than Nice. It suits certain consumptives, and also nervous dyspeptics, whilst rheumatism is also benefited. Cannes would suit you, we should think. Nice is much less salubrious. 2. Yes; by judicious medical treatment, the effects of pleurisy should be curable. 3. Cassell's "Family Physician."

**A READER OF HEALTH.**—1. About eight hours' sleep for ordinary work; nine, if work is severe. 2. Diet question a very wide one. We should say cocoa and milk for breakfast; dinner light, but nourishing—soups, fish, light milk-puddings, meat as taste inclines. The quantities and details you will learn from such works as Smith's or Chambers' "Foods." 3. We cannot reply to your third question, to answer which perfectly would require a small volume. 4. We do not recommend alcohol at all. The absolutely healthy person does not require it. If, for dietetic reasons it is taken, we prefer it in the shape of a good claret, diluted with water to taste.

**ONE WHO LIKES HEALTH.**—1. See a dentist. Your teeth have possibly been allowed to go too long uncleaned. 2. Try a system of gymnastics under a teacher. "Round shoulders" can only be remedied by a careful course of exercise.

**L. A.**—Try the effect of gargling the throat night and morning with a gargle consisting of a teaspoonful or so of sulphurous acid (not sulphuric) to half a tumbler of water.

**THEODORA.**—See our article on "Hair-dyes" in present number of *HEALTH*. If not suited thereby, write again.

**NEMO.**—Send name and address. Meanwhile, try Fellow's "Syrup of the Hypophosphites," a teaspoonful in water before meals thrice daily. We think your last meal is eaten too late at night. Try "Æsculap" water as a mild aperient. Possibly a thorough change to a bracing seaside place would do you much good. Your symptoms are those of debility and want of tone.

**G. E. O.**—We do not think your symptoms indicate any serious disorder; but for your own satisfaction you should have the secretion tested by a physician (keep clear of quacks, who thrive on cases like yours). Your symptoms indicate a general condition or ailment, which a physician will speedily correct. We shall be glad to be of any further assistance, if required.

**CAPILLUS.**—The prescription you quote was perfectly correctly given in our pages. The prescription is open to the objection you mention, but you might leave out the bergamot without materially affecting its composition. Free trituration in a mortar will assist the assimilation of the ingredients. There is no objection to applying heat, but there are other formulæ given which may suit you better. The addition of alkali would not be advisable. Thanks for your suggestion regarding the correspondence, but we find it better to treat each case separately.

**MELLITS.**—The disease is very insidious, and you must trust most to your dietary. Take butcher's meat (save liver), fish, gluten bread, eggs, spinach, watercress, &c., blancmange made with cream; for drink, tea, coffee, extract of meat, soda water or Vichy water. Avoid sugar in any form, wheaten bread, potatoes, peas, beans, cabbage, turnips, asparagus, &c., pastry and puddings, and all fruits. As drinks, avoid ales, porter, stout, all sweet wines, &c. Clothing warm; open-air exercise; and half-grain doses of codeia occasionally. Better let the sea-bathing stand over. Your case is of hopeful character, so far as we can see.

**N. Z.**—We have never heard of the remedy. Try Squire, in Oxford-street, or any large wholesale druggist.

**ATHOS.**—Undoubtedly, give up all stimulants. Try the effect of electricity. A Pulvermacher's chain-band should do you good.

**W. RICHARDS.**—The plan you propose of making an application for the back seems to us excellent enough. Try the effect of bromide of potass, taking it in powders, one powder night and morning—15 grains of the bromide in each powder.

**AJAX.**—Gargle mouth and throat with a gargle composed of a teaspoonful of sulphurous (not sulphuric) acid, in half a tumbler of water. Use "Æsculap" water occasionally. Rest after food. Don't eat supper—or, at least, just before going to bed. You might also, as a tonic, try the effect of a few doses of Wyeth's Dialysed Iron. Write again if unimproved.

**A. CHAMBERS.**—Give up all sugar, beer, and starchy articles (e.g., potatoes, rice, &c.); try gluten bread for a time. Avoid fruits. Try a little claret and water, and give up all other liquors. You may be constitutionally stout. There is no objection to the belt, if properly fitting and not injuriously tight. Write again, with fuller details, if unimproved.

**CAUDLE.**—We feel much interested in your case, which is one of hundreds we hear of. Our advice to you is, firstly, to cease desponding; cultivate a more cheerful frame of mind. Your reading must have taught you that this world is not all sorrow or pain. Secondly, you must use physical means of cure. Be less of the



hermit and recluse. Walk out, or go up the river occasionally, and cultivate cheerful society. Live well; take a teaspoonful of Fellow's "Syrup of the Hypophosphites" in a little water thrice daily. The consequences of your early life will be removed by careful attention to diet and to your mental health. You suffer from no disease; and we trust, after following our advice, to hear you are better. [The fossil you send is an *Echinus*, or sea-urchin, tolerably common.]

P. T.—We think you do too much in the way of walking; and you have too little sleep. You are burning the candle at both ends. The craving for food is only a sign that your nutrition does not keep pace with your bodily work. Work less, rest and sleep more. Give up dumb-bells. You will never be a Hercules if you persist in your present course. Try the tonic recommended to "Caudle" above.

R. W. GARWOOD.—Yours is a difficult question to answer without seeing the deformity. Any good surgeon will best advise you. There may be a chance of remedy by the adjustment of an india-rubber appliance. Call at a good surgical-instrument makers, and consult a surgeon.

A. Y. H.—We think the "ordinary bread" loaf is preferable. We are not aware that the "tinned loaf" is more nutritious, nor do we see how it can contain more of what you call "the spirit of the flour." Every loaf contains a certain percentage of water; the tinned loaf exceeds the ordinary loaf in respect of its water.

### BOOKS RECEIVED.

*Babies, and How to Rear them*, by F. A. FAWKES, F.R.H.S. (London: W. Swan, Sonnenschein & Co.); *Household Cookery and Laundry Book*, by Mrs. BLACK (Collins & Co.); *Drink, and Strong Drink: a Series of Readings*, by Dr. B. W. RICHARDSON (Collins); *Handbook of Domestic Cookery* (Collins).

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London (Euston Station)	dep.	5 15	7 15	10 0	11 0	8 0	8 50	9 0			
Edinburgh	arr.	4 30	5 50	7 50	9 45	6 45	6 45	7 50			
Glasgow	...	4 45	6 0	8 0	10 0	6 40	6 55	8 0			
Greenock	...	5 52	7 15	9 5	11 42	7 50	7 50	9 48			
Oban	...	9 43	—	—	4 35	12 15	12 15	2 34			
Perth	...	6 50	—	9 35	11 40	8 5	8 15	9 55			
Dundee	...	7 30	—	10 30	12 50	9 0	9 0	12 0			
Aberdeen	...	10 10	—	—	3 20	11 40	2 15				
Inverness	...	—	—	—	8 0	1 30	6 25				

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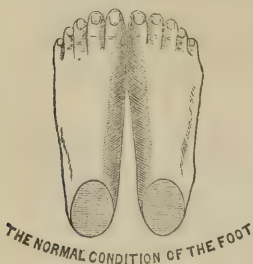
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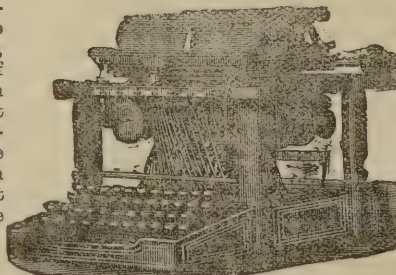
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"BISHOPHORPE, YORK, October 14th, 1882.



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JULY 20, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE prevailing topic of the week, in a health-aspect, at least, has, of course, been the Cholera. It is highly gratifying to remark that the public feeling has not, as yet, tended towards alarm. This fact is due possibly as much to the effective ventilation of the subject, and to the recognition that we are tolerably well prepared for the invasion should it reach our shores, as to any other causes. We may commend our articles on this topic to the attention of our readers. In the face of the distinct safety which exists for all classes through the adoption of plain and simple health-measures, a knowledge of what cholera is, and how it may be avoided, is eminently desirable. Only the over-timid, and certainly not the wise, will deem ignorance of the causes of preventible disease preferable to full and complete knowledge thereof.

\* \* \*

THE Orders in Council which have been issued on the Cholera question are practically those of former years. As applied to the Port of London, all ships are to be deemed "infected" in which there is or has been, either during the voyage, or at any time in port in the course of such voyage, a case of cholera. The Customs officers are to detain such a ship, and no person on board is to leave the vessel. If within twelve hours, and after examination, the medical officer reports the ship free from disease, it will be released. Provision is to be made for the reception of patients by the sanitary authority. Other regulations direct the disinfection of the ship in case of Cholera outbreak, and the burial of the dead, as well as the detention and examination of passengers in infected vessels. For Scotland and for other ports regulations of allied character have been issued. Government is, therefore, on the alert, and we may be satisfied that, should any case of Cholera arrive on our shores, it will have a very good chance—unless wilfully concealed or overlooked—of immediate arrestment and satisfactory treatment.

\* \* \*

A SOMEWHAT interesting paper on a new method of treating Cholera appears in the *British Medical Journal* of last week. The article, contributed by Dr. Taylor, of Jersey, maintains that a rational treatment of this scourge is by the restoration of bile to the blood. The absence of

bile and the checking of the liver-secretion in Cholera, are noted by Dr. Taylor as important facts of this disease, in which, after death, the liver and gall-bladder are found to be gorged and distended with bile. As an adjunct, then, to ordinary modes of treatment, Dr. Taylor would inject *bilin*, the active principle of bile, into a vein, say of the arm. It will be interesting to hear scientific criticism of this proposal.

\* \* \*

THE *British Medical Journal* of last week devotes a leader to the topic of "Re-vaccination in Foreign Armies." The article is inspired by the letter of Mr. Wheeler, of Darlington, published in *HEALTH* of June 29 last. Mr. Wheeler's facts and inferences are stoutly combated by the medical editorial, and, for the sake of the cause he champions, we hope he is prepared with a reply. There is nothing like hearing "both sides" of a story, and we are glad our desire to have this question fully argued (believing, as we do, in the value of vaccination) has, so far, met with success. Our medical contemporary, for the convenience of its readers, however, might have quoted a little more explicitly the source of Mr. Wheeler's epistle. Our title, "*HEALTH*," is surely as plain and distinct as need be for such a purpose.

\* \* \*

M. PASTEUR, with whose name our articles on the "Germ Theory" must have familiarised our readers, is about to proceed to Egypt to investigate, along with other *savants*, the nature of Cholera. This is indeed good news, seeing that, should favourable opportunities occur, the genius of Pasteur may be regarded as capable of solving many of the knotty points connected with the origin and spread of the epidemic. After such an announcement as that just made, who shall say that science shows no self-denial or humanity?

\* \* \*

HERE is a case for anti-vaccinators to ponder over. Mr. Armstrong, in reporting on the health of Newcastle-on-Tyne, gives the case of a man who, with his child, was removed to the small-pox hospital suffering from that disease. The man's mother was urged to allow herself and her family to be re-vaccinated. She refused—or at least did not follow the advice. Mark the result. She proceeded to her home at Stepney, evidently carrying infection with her, and in a fortnight another son took the disease, and was removed to the hospital. Again re-vaccination was urged, and again the operation was neglected. Two weeks afterwards the father, mother, and a third son sickened from small-pox. The woman and her husband both died of the disease. In this case, ignorance, obstinacy, carelessness, or prejudice prevented the probable saving of these two lives.

\* \* \*

A SOCIAL question of the utmost interest has recently been ventilated in the columns of a medical contemporary. A medical man details the circumstances under which a patient sought his advice, and the lessons to be learned from his remarks ought to commend themselves to all honest employers of labour who regard the health of their employes as a fit and proper topic for attention. A girl aged eighteen, employed in a well-known London West-end "retail establishment," worked from 8 a.m. till 8 p.m., "*standing all the time*, with intervals of twenty minutes for breakfast, half-an-hour for dinner, and a few minutes for tea. The meals," we are told, "were badly served;" and, as the doctor adds the bill of fare, we may be able to judge of the truth of his comment, that the dietary was "insufficient in quantity and not sufficiently varied."



HERE is the *menu* in question, on which the modern "white slave," who stands all day, is expected to work hardly and well:—"Breakfast: Bread and butter (salt). Dinner: Hot meat and potatoes, alternating with cold meat and bread every other day; pudding twice a week, consisting of boiled rice. Tea: Bread and butter (salt). Supper: Bread and butter (salt)." The food, it is added, was "so untempting that, as a rule, most of the assistants only remained in the room at dinner (?) about ten minutes, and the quantity was not sufficient." Under the strain of long hours, hard work, and insufficient food, the girl's health broke down. The doctor prescribed simply a continued absence from business and good food.

\* \* \*

THE lessons of the above case lie on the surface of things. There must be thousands of similar cases, in which life, with a little consideration (and for the same outlay) on the part of the employer, might be made very much easier and healthier for the employed. The question of "standing all day" has been ventilated over and over again—we are sorry to find with, apparently, barren success. The serious effects of these prolonged hours on the feet are only too well known to medical men. Nothing is easier than to provide seats for counter-women on the pattern of Messrs. Wrench & Co., of Ipswich. Illustrations of these seats we hope to publish in *HEALTH* next week. They fold readily and at once out of the way, and thus obviate the objection to which chairs behind counters are open from the want of room.

\* \* \*

THE dietary above detailed strikes us as being of very poor kind. If cocoa were substituted for the "eternal tea," the employés would at least receive a nutritious food. Again, the dinners appear to us to be insufficient; and life, with the chronic contemplation of alternating hot and cold meat and potatoes and bread, with a bi-weekly rice-pudding, cannot appear at all rose-coloured—in a nutritive sense, at least. The lamentable part of the story is the utter absence of any remedy. The labour market is over-stocked, and, at the risk of ill-health and discomfort, the toilers must perforce stick to their poorly-paid posts. The doctor's proposal that a system of Government inspection should be exercised in all large establishments where female labour is employed is too peremptory in character for this country. The only thing that remains is to appeal to the common humanity of employers. The details of food, &c., are too often left to careless underlings. The head of every large establishment employing numbers of workers who are fed on the premises should see to the physical welfare of his servants. And this is neither an irrational nor an unjust demand.

\* \* \*

AN interesting lecture on school life in relation to health was recently delivered at the Parkes Museum in London. We are glad to observe that the lecturer condemned the practice of allowing boys to purchase "provisions"—under which term, we presume, he included tarts and confectionery—of doubtful nature at shops. That the consumption of the said articles is often detrimental to health, no one denies, and, for one thing, such indulgence tends to destroy the appetite, and to render the ordinary meals ineffective for nutrition. We are also pleased to note that the lecturer condemned the practice of severe training for athletic sports at school in the case of lads whose frames were not duly "set."

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### CHOLERA.

THE advent of this disease in Egypt, and the idea that possibly it may extend its ravages to the European Continent, or even visit our own land, are items sufficient to invest the history of this plague with special interest in our eyes. Public ignorance regarding the nature of the disease, and more especially concerning the precautions which are to be observed against its inroads, will unquestionably intensify the feeling of alarm with which the whole topic is viewed. As a contribution, therefore, to the public knowledge of this disease—knowledge which, wisely used, will tend to place us on our guard against its invasion—we propose to consider briefly and popularly the chief points of interest in its history. The aphorism that "Knowledge is power," is never more truly exemplified than when applied to the health-information which enables us to resist or to escape disease.

"Cholera" is a term derived from the Greek for the bowels or intestine and from the Greek verb to flow. Dunglison, in his Medical Dictionary, gives as the origin of the word the Greek terms for "bile" and for "flow." The prefix "Asiatic" is often found associated with this disease, and serves to indicate the geographical source whence waves of this epidemic have flowed westwards. Cholera has also been named "Malignant" and "Epidemic." Centuries ago, this disease was certainly known in India. It was hardly ever absent from the places tenanted by those natives who housed amidst dirt and squalor. But in 1817 cholera seemed to wake up from its dormant condition. It was then that it first set out on its westward march. Sir Archibald Alison, in his "History of Europe," graphically tells us how in that year the disease became epidemic. On the 5th November, 1817, the treaty with Scindia was signed, and thereafter the cholera appeared in Lord Hastings's army, literally decimating the troops. In one week, 764 soldiers and 8,000 camp-followers succumbed to its ravages. The year was one of scarcity; the crops had failed. The troops were situated in low-lying ground, and every condition favourable to the spread of the disorder was therefore represented in the East. If it be true that conditions mould the life and forms of animals and plants, no less true is it that the surroundings of a disease make or mar its intensity and development. The year 1817 found cholera surrounded by the conditions favourable to its spread. In November of that year 148 Europeans died, and 10,000 natives perished. The filthy surroundings of the latter sufficiently account for the greater mortality. Spreading to Calcutta, the death-rate for a time was at the rate of 200 per day; and here again, it was the lowest quarters of the city which suffered most severely from the scourge. The same lesson has been learned in the pages of bitter experience amongst ourselves. It is the poor who suffer most when this or other epidemics appear amongst us. The duty of mankind to their neighbours is never more practically rewarded than in the safety we purchase for ourselves by our attention to the sanitary wants of the poor.

The history of the most fatal cholera epidemics, like the history of typhus fever, is a tale of over-crowding as a condition of disease. For example, at Tooting, 1,395 pauper children were crowded together in one establishment. Each child had allotted to it little more than a tithe of the breathing-space demanded for health. In one



night, during the epidemic of 1853-54, 64 of these children were attacked. No fewer than 300 took the disease in all, and in one week 180 fell victims to the dreaded scourge. Again, at Taunton, 276 paupers tenanted the local workhouse. Instead of having 1,500 or 2,000 cubic feet of breathing-space, as demanded by the lowest estimate of health-science, these paupers in certain of the rooms had each not more than *sixty-eight cubic feet*! In less than a week cholera had killed sixty of these persons. Taunton Gaol at this period, where the prisoners had each from 800 to 900 or more cubic feet of breathing-space, escaped scot-free. It is by such examples that we are taught that, after all is said and done, the gaol is really the type of a modern sanitary residence. Again, cholera follows, like an attendant Nemesis, the footsteps of pilgrims in the East. Crowded eastern towns, destitute of all sanitary appliances, are the breeding-places of this pest. At Mecca, pilgrims have died off from cholera at the rate of 300 or 400 per day; and in India, at Pooree and elsewhere, the same lesson of the fruits of filth and ignorance was seen. There, the normal population is about 35,000; but at festival-seasons the town might harbour 150,000 devotees. Regularly as came these hordes of pilgrims, appeared the cholera. Mass human beings together, allow them to pollute air and water, permit them to live a life less cleanly than that of the brutes, and we shall reap our reward in the plagues which breed amidst the exhalations and emanations of the human crowds that literally poison and decimate their own ranks with a certainty terrible to predict and behold.

October, 1831, saw cholera first imported into England. It is a matter of common medical belief that the disease may possibly have existed in this country for lengthened periods—appearing, however, not as an “epidemic,” killing its hundreds, but in the form of detached cases. Sydenham speaks of a disease occurring in England in the seventeenth century, which is assumed by some authorities to have been cholera. But others regard this disease as a kind of dysentery. The first cholera epidemics were those of 1831-32, and 1848-49. These were severe visitations. They lasted each for over a year. Beginning in October, they ran through the winter, declined in spring, and then were fanned into new vigour as the summer advanced. A notable fact of these two epidemics was that each began at the close of the wheat harvest, and that each was most fatal during and just after the harvest of the succeeding year. The deaths reported in Great Britain as the result of the first invasion were 52,547. This result is only approximate, as no registration system was then in vogue. In 1841 the mortality was set down as 55,181 deaths in England alone. To this estimate must be added 28,900 deaths reported as due to diarrhoea alone. In 1849, the deaths from these two causes numbered 53,293 and 18,887 respectively. The 1853 epidemic was not of such severe character as the preceding attacks. In that year cholera was said to have killed 4,419 persons in England and Wales, while the deaths from diarrhoea were set down at 14,192. But in 1854 the cholera mortality was 20,097, and that of diarrhoea 20,042. Dr. Farr estimated that the 1849 epidemic of cholera and diarrhoea combined killed 41 per 10,000 of population. The epidemic of 1854, on the same calculation, killed 22 in each 10,000.

The epidemic of 1865-66 was our last visitation. Liverpool and Southampton appeared to suffer especially in this case. The history of the Southampton epidemic showed that between September 24, 1865, and November 4, 60 cases, with 25 deaths occurred. A farmer and his wife carried the disease from Weymouth to their home. Between

September 28 and October 6, eight members of this family were seized with cholera. Five of these persons died. The doctor was also seized, and succumbed after ten hours' illness. A farm labourer, a woman who had performed the last rites in his case, and her grandchild, also died. The cholera, curiously enough, did not spread beyond the village (Theydon-Bois, in Essex) in this case. In London, 5,596 deaths resulted from cholera in 1866; diarrhoea killing 3,147 persons in that year. The total mortality in England and Wales, in 1865, from cholera, was 1,291, and from diarrhoea, 23,531. In 1866, the general mortality was 14,378, and 17,170 from cholera and diarrhoea respectively. In 1866, 15 deaths to every 10,000 of the population occurred.

(To be continued.)

## THE HEALTH OF AMERICAN WOMEN.

BY A PHYSICIAN.

### THIRD AND CONCLUDING PAPER.

DR. CHADWICK, who forms the third figure in the interesting symposium we have quoted from the *North American Review*, considers the question before him from the four aspects of education, climate, food and drink, and motherhood. His remarks are clear, convincing, and highly suggestive. It is in Dr. Chadwick's paper that the outspoken character of New World journalism, to which we referred in our first article, is best seen. He is able to state, and to state boldly, details which an English literary editor would never dream of admitting to his pages. Nowhere in this country, save in the columns of the medical journals, can we read details such as the cultured American—man or woman—may find in the pages of this review. For our own part, we see clearly enough the two sides to this freedom of speech. On the one part, there can be no doubt that the plain-speaking of Dr. Chadwick concerning the physiological peculiarities of woman's life, enables the intelligent reader to arrive quickly at the root of his reasoning. The author is treating a health-topic of vital importance, and he means to supply his reader with all the details necessary for the formation of a sound judgment thereon. There is no beating about the bush here. The writer is in dead earnest regarding his mission—that of arriving at a fair estimate of the causes of ill-health in his countrywomen. And what he has to say, we repeat, he states plainly, and, it must be added, to the professional mind, without undue leaning towards elaboration of details.

The converse side to this is represented by the feeling that this plain-speaking has its various disadvantages. The laity is not educated up to the appreciation of arguments which are purely physiological. There are many aspects involved in such a study, which are but Greek and Hebrew to the uninitiated. And there is, lastly, a very prominent danger, to our mind, of prurient ideas being generated by the open discussion of topics usually relegated—on this side of the Atlantic, at least—to the medical class-room, or to the societies of medical men. The outcome of Dr. Chadwick's reflections on the education of women may be quoted as the germ and essence of his preceding remarks. From his exposition of the physiology of female life, he arrives at the following conclusions, with which we heartily sympathise:—

“Thus far only mental training has been considered, but the physical powers need development as well. Girls should have hours when they are expected to run, jump, swing, play ball, and engage in other active games, to shout



and laugh, for by all such exercise the muscles are developed and strengthened, the blood is made to circulate freely, and the lungs are fully inflated, so that a full supply of oxygen is obtained, and the effete carbonic acid expelled.

"How are these principles to be applied to secure better health for our girls and women? In place of directing their efforts promiscuously to the study of music and drawing, to the acquisition of a smattering of several foreign languages, of history and of poetry; in place of allowing or even encouraging them to make playthings of the natural affections by indulging in indiscriminate flirtations; in place of taking them from all serious studies or pursuits at the age of seventeen, and tossing them into the vortex of society life, where their ambition shall be to excel in dancing or to attract the largest circle of admirers, with the sole ulterior object of securing a husband; in place of all these practices, which tend to develop the emotions only, let us subject their minds, from the earliest childhood to full womanhood, to a systematic course of physical and mental exercise; let us store their minds with useful information; let us disclose to them the entrancing interest of nature and nature's laws."

Concerning the effects of climate, our author maintains that, in the New World, the absence of moisture is the cause of the stimulating quality, leading "to the expenditure of energy in all directions." Thus Dr. Chadwick alleges there is wrought out a modification of American *physique*, which, whilst it leads to premature exhaustion of nerve force, has a compensating side in saving his nation from conditions and causes of ill-health to which other nations are liable. Insurance tables teach that the chances of life for men "are, on the whole, better in this country," says Dr. Chadwick, "than in England." "I see no reason," he adds, "to doubt that the same fact would be true of women, were like comparative statistics available." The winter cold, he maintains, influences the health of American women, through the artificial heating thereby rendered necessary.

"Among the lower and middle classes in the country," says our author, "the women often pass two or three months of winter in a single room, heated by an iron stove. No provision is made for the admission of fresh air to the room, and the wife's or daughter's duties and inclinations rarely lead her to seek it out of doors. In this room she cooks, and washes, and scrubs, breathing the same heated air over and over again, which is too often loaded with carbonic acid from the stove, and with noxious vapours from the sink, and, worse still, from the untrapped drain-pipe. Her lungs are rarely stimulated to full expansion by the fresh, cold air which is circulating about the house; her muscular system languishes from lack of proper exercise."

The topic of diet affords room for the following remarks:—

"To complete this sorry picture of the life led by the women among our rural population, and, to a less extent, among the lower and middle classes of our larger New England cities, a glance must be cast at their diet. This could hardly be worse, and it is, in my opinion, a most potent and prevalent source of ill-health. We live, as some one has appropriately said, 'in the zone of perpetual pie and doughnuts.' These 'unassimilable abominations,' together with sodden, half-baked bread, baked beans, cake, happily combined with an abundance of fresh meat, constitute the principal food of our lower classes. Their drink is chiefly tea, which is kept steeping constantly over the fire, and is often consumed in prodigious quantities. While entirely deficient in nutritive properties, this beverage stimulates

the nervous system, intensifying the powers of sensation, while it allays the craving for nutriment. It is my belief that tea inflicts almost as much injury on the female sex as alcohol does on the male. To the credit of our women of all classes, it must be said that consumption of spirituous liquors by them is almost unknown.

"As more than offsetting the baneful effect of its indigestible character may be cited the universal abundance of food. There is no family in the land so poor as to be in want of food. Fresh meats, which are luxuries but occasionally obtained in the older countries, are rarely absent from their tables. The plenty only renders more abhorrent the depraved tastes which our people show in their selection. Herein lies a grand field for a reformer." It need not be added that as regards Dr. Chadwick's remarks on the baneful influence of tea-drinking, his words are quite as applicable to our own land as to the American continent.

In his concluding topic—that of motherhood—Dr. Chadwick again enters into details which certainly concern the physician, and the physician alone. His conclusion is that the period of motherhood of his countrywomen is "very perceptibly longer than that of other nationalities who are here as immigrants." Our author adds that, "while admitting the above and other conditions as causes of impaired health among American women, I do not regard them as inherent in our climate, institutions, or social life, but as merely incident to a people in a strange land and under temporary conditions of life. I fail to recognise the fact, as asserted, that our women are, as a whole, less healthy or robust than those of other countries. And I have seen so vast an improvement in their physical and mental vigour during the few years over which my personal observation extends, that I feel encouraged to predict for them in the near future as great pre-eminence in physical and mental strength as is now universally accorded them for physical beauty."

We have been thus enabled to present to the readers of *HEALTH* an account of opinions entertained in cultured circles in America respecting the health of women, and the influence of civilisation on female bodily development and vigour. Much of what is said of the writers whose views we have noticed applies with equal force to our own womanhood at home. But one fact we ought certainly to lay to heart, and to ponder over—namely, that in America all classes of society appear to be awakening to an appreciation of health laws and conditions with a rapidity and completeness which we might well imitate amongst ourselves. If the American population does not conserve and improve its health, it will not, at least, be chargeable, in our opinion, with any lack of active interest in those matters which pertain to its physical well-being and its bodily and mental prosperity.

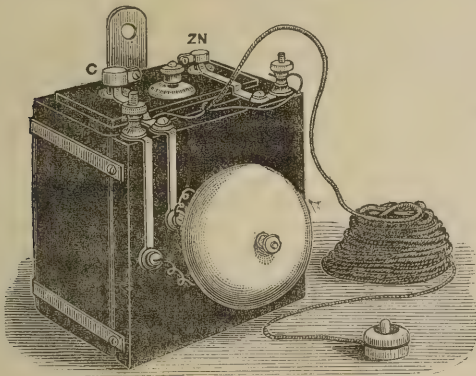
## HEALTH ITEMS.

### AN INVALID'S BELL.

THOSE who have had much to do with the nursing of the sick, know only too well the difficulties which frequently intervene in the way of forming a ready communication between the invalid and attendants. A sick person tenanted an upper room of a house is practically cut off from easy communication with the kitchen or dining-room. Even if an ordinary bell-pull be placed in the room, the invalid may be too weak to use this clumsy contrivance. The amount of exertion and displacement which may be required to ring an ordinary bell, is beyond the power and strength of most invalids. Happily, the science and art of



the electrician come to the rescue in such a case. The "Insulite Sealed Battery," manufactured by the British Insulite Company, of 20, Coleman-street, London, E.C., removes not merely the disadvantages attendant upon an ordinary bell, but is likewise free from the objections entertained to the ordinary invalid's bells of other makers. As shown in our illustration, the bell to which we allude consists of a handy and elegant box, on one side of which a bell exists. The box contains an electric battery of special contrivance, and so adapted that the bell, battery wire, and push can be packed within a very small compass, and carried safely without fear of breakage, amongst the ordinary luggage of a family in event of removal to the seaside or elsewhere. When in use in the house, all that is required to be done is



the placing of the bell in any position or room, kitchen, drawing-room, dining-room, &c., in which it is desired to sound. The wires, securely contained within a cord investment, are then simply unrolled, and without hooks or other fastenings are led, say, upstairs to the invalid's room, the push of the bell, which is attached to the end of the cord, being laid on a table by the bedside, or placed under the pillow. Then, by merely pressing the ivory knob of the push, as in an ordinary electric bell, the attention of the nurse or family is called to the invalid, who has thus at hand a means of communication with the household which costs no exertion to bring into operation. When we reflect that at night the bell can be moved into the sleeping apartment of the attendant or other member of the family, thus giving the invalid the power of summoning aid at any hour of the night, we can readily realise how great a boon to a family such a bell must prove itself. For use in ships and in many other situations, this bell is well adapted. It is not liable to get out of order, and the price (25s.) is extremely moderate. We should like to call this handy apparatus "the invalid's friend"—a term well merited when we consider how much exertion and inconvenience to both the sick and the hale such a contrivance will save.

ONCE upon a time, say the story-tellers, "Ouida" asked Charles Reade to suggest a name for her new pet dog. "Tonic," quoth he, instant; "for it is sure to be a mixture of *bark, steal, and whine.*"

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be *heated* before being consumed."

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### NO. XV.—THE CARE OF THE BEARD.

BY DR. ANDREW WILSON.

THE texture of the hairs which form the beard differs entirely from that of the hairs of the head and body generally. Microscopists tell us that the eyelashes and beard-hairs are the coarsest in the body—a fact which, as regards the latter at least, can readily be confirmed even by naked-eye inspection. In their growth, the face-hairs resemble those of the head; but the influence of continual shaving or cutting on the quality of the beard-hairs is possibly very great. This much, at least, appears tolerably certain—namely, that the beard which has never known scissors is of a finer and more silky texture than that which has been allowed to grow after, it may be, a lengthened period of shaving or trimming. It has been calculated that the human beard grows at the average rate of six or six and a half inches per annum; whilst one estimate sets down the total length which is removed during a lifetime of eighty years at eighty feet. There are wide differences perceptible in the growth of the beard amongst the various races of mankind. It is found that the beard, as a rule, attains its greatest development amongst the light-skinned and light-haired races; but the conditions which result in the presence or absence of the face-covering are probably far more complex than might at first sight be imagined.

Doubtless fashion, or habit, and work, will largely dominate the particular style of face adornment seen in the sterner sex. Individual peculiarity or predisposition may favour the growth of the beard in one person, and may dispense with the beard in another. The military service favours the moustache, but eschews the beard, whilst in the navy growth of the beard and whiskers is by no means countermanded. Again, certain of the professions have from time immemorial tacitly adopted a particular style of hair-dressing. Long ago, the legal countenance was a literally "bare faced" one, and, in many respects, the lawyer and the actor still agree in the total absence of face-hair. The neatly-trimmed side-whiskers of the barrister are still to be seen, although the rule has of late years been often broken through, and beards and whiskers may be seen in plenty beneath the forensic "horsehair." The medical profession, also, used to appear in shaven chin and upper-lip, the "professional whiskers" being also duly trimmed; but of late years, this fashion has altered very considerably, and doctors, like the lawyers, appear to have admitted the beard as a thoroughly rational element in the personal belongings of the profession. The idea of "the priest all shaven and shorn," embodied in the nursery rhyme, shows us that the clergy in like manner long ago adopted a very distinctive style of face-decoration. To this day we may, as a rule, distinguish the High Churchman from his Broad Church neighbour by the complete absence of face-hair; and the priesthood of the Roman Catholic Church naturally follow what appears to be a very ancient custom in their free use of the razor. The growth of the moustache, according to the ideas of some writers, dates—in America at least—from the visit of Kossuth. In Great Britain the growth of the moustache received a certain impetus from the initiation of the Volunteer movement. At least, this fashion became more



common after the enrolment of the citizen army than before. As a typical military fashion, the habit of moustache-growing would not unnaturally become associated with the movement in question.

Personal objections to the growth of the beard and moustache have been founded on the score of cleanliness and convenience; but these objections will not, of course, hold good in the eyes of thousands. There is, at least, one powerful argument in favour of the growth of the beard and whiskers, which may well serve to counterbalance any objections which may be entertained on the score of fashion or prejudice. This is the health-argument, which maintains that continually-recurring diseases of throat and chest are prevented by the warmth and protection which the beard affords. There can be no doubt regarding the genuine character of this argument. Numerous testimonies can be had regarding the beneficial effects experienced after allowing the beard to grow. Cases of persistent sore-throat, inflammation of the tonsils, or quinsy, bronchitis, head-colds, ear-aches, and other troubles, which owe their origin to the too-familiar "cold" or "chill," have disappeared in afflicted subjects when the beard has been allowed to grow. This result can be perfectly understood when we take into account the increased warmth and protection which the beard is the means of according to the face and throat. Hence, it is a matter for the consideration of those who are much subject to throat and chest-complaints whether they should not avail themselves of the means which nature provides for the protection of the face and neck.

The practice of *shaving*, in which many persons indulge, is often attended with considerable discomfort. For "easy shaving," a keen razor is, of course, an absolute necessity, and many persons unwittingly injure the skin to a great extent by the practice of "scraping" it with a razor which, like the proverbial instruments, has been "made to sell, and not to shave." The constant use of a blunt razor results in the irritation of the skin, and in the frequent outbreak of annoying pimples which distress the shaver. We should strongly recommend all shavers to possess a set of seven good razors, and having duly labelled them corresponding to the days of the week, use one each day. By such a practice, it will be found that each razor will keep its edge, with a little stropping after use, for a very long period of time; for razors, like animate things, appear to lose "tone" by too frequent use. We have lately used with success a most admirable invention, in the shape of the "Cowvan's Canton Strop" of Messrs. R. Hovenden & Sons, of Berners-street, London, W. This strop possesses four distinct sides, used respectively for grinding, setting, stropping, and finishing, and when far removed from the cutler, the shaver may have the satisfaction of being able to keep his razors in constant good trim. A supply of the "Razor Paste" sold by the same firm keeps the strop in good condition.

Regarding the use of soap, it is needless to mention "Pears's Soap" (sold for shaving in highly-convenient sticks) as a most admirable invention. A little of the soap rubbed on the face produces, by the aid of the brush, a thick, creamy lather (with hot or cold water), which renders shaving extremely easy. Those who find "Shaving Creams" irritating to the skin—as some of these preparations undoubtedly are—may be recommended to try the "Glissadermos" of Messrs. Hovenden. For travellers and others, this preparation is highly useful, and as the aid of a brush is dispensed with—the preparation being simply spread over the chin with the finger—the convenience of shaving is thus greatly enhanced.

A final word may be added regarding the treatment of the irritation from shaving already mentioned. For this

affection pure vaseline should be rubbed on the face at night, and if possible the operation of shaving should be omitted for a day or two. The blunt razor should be sharpened, and a little attention to the general health will cause the annoyance to disappear. The effect of a chill in cold weather after shaving with hot water is often seen in the irritation just alluded to. We would remind those who are eager for the growth of moustache and whiskers that there is no preparation (beyond such stimulating lotions as have already been described in previous papers) which can "force" hair to grow on the face. Deficient hair-growth is as often as not a constitutional and general feature of the body, and depends on conditions quite beyond the reach of outward applications. Again, good health and a free circulation through the skin will often materially aid the growth of hair. But to all who might be induced to spend their money on the numerous quack nostrums advertised as efficacious in promoting hair-growth, we would say, "Attend to your general health, and refrain from wasting your money on such utterly worthless preparations."

NEW AND STALE BREAD.—A celebrated French chemist, M. Boussingault, has recently been engaged investigating the nature of the change which takes place when bread becomes stale, something which has hitherto not been understood. In the course of his experiments a circular loaf, 12 in. in diameter and 6 in. thick, was taken from an oven heated to 240° Reaumur, and a thermometer forced into it 3 in. The thermometer indicated 78° R. (207.5 F.). The loaf was then taken to a room the temperature of which was 15° R. (66° F.), and found to weigh 7½ lb. In 12 hours the temperature of loaf sunk to 19° R. (73° F.), and in 24 hours to 15° (66), and in 36 hours to 14° (63.5). In the first 48 hours it lost only 2 ozs. in weight. After six days the loaf was again put in the oven, and when the thermometer had indicated that its temperature had risen to 55° R. (156° F.), it was cut open and found to be fresh, and to possess the same qualities as if it had been taken out of the oven the first time; but it had lost 12 oz. in weight. Experiments were made with slices of bread with similar results, proving conclusively, that new bread differs from old, not by containing a larger proportion of water, but by a peculiar molecular condition. This commences and continues to change during cooling, but by again heating the bread to a certain temperature, it is restored to its original state. It is the mechanical state which makes new bread less digestible than old. The former is so soft, elastic, and glutinous in all its parts, that ordinary mastication fails to reduce it to a sufficiently digestible condition.

FRENCH PRECAUTIONS AGAINST TYPHOID FEVER.—To prevent the spread of typhoid fever the Paris Council of Hygiene recommends that, as far as possible, the patient be isolated; that those attending him wash frequently in water impregnated with carbolic acid; that other persons, especially children, be kept away; that bedrooms, divested of curtains, carpets, and hangings (previously disinfected), be well ventilated, the bed being by preference placed in the middle; that the *excreta* be immediately disinfected with water holding chloride of zinc in solution; that the clothing, sheets, and linen be dipped before leaving the room in diluted carbolic acid, which will also serve for washing the room after the departure of the patient, and after it has been purified, with the linen, bedding, &c., by the fumes of sulphur for twenty-four hours. The room should also be well ventilated for a week before being again inhabited.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### THE CARE OF INFANTS.

THE SIXTEEN COMMANDMENTS OF THE PARIS  
ACADEMY OF MEDICINE.

THE Academy of Medicine in Paris has condensed into the following sixteen propositions the most important hygienic rules for the care and management of infants. We reproduce them here with the sincere hope that all mothers and nurses will commit them to memory, and observe them faithfully.

I. During the *first year* the only suitable nourishment for an infant is its own mother's milk, or that of a healthy wet nurse. Suckling should be repeated every *two hours*—less frequently at night.

II. When it is impossible to give breast milk, either from the mother or a suitable nurse, cow's or goat's milk, given tepid, reduced at first one-half by the addition of water slightly sweetened—and after a few weeks one-fourth only, is the next best substitute.

III. In giving milk to an infant always use glass or earthenware vessels, not metallic ones, and always observe the most scrupulous cleanliness in their management, rinsing whenever used. Always avoid the use of teats of cloth or sponge, so frequently employed to appease hunger or quiet crying.

IV. Avoid carefully all those nostrums and compounds so liberally advertised as superior to natural food.

V. Never forget that artificial nourishment, whether by *nursing-bottle* or *spoon* (without the breast), increases, to an alarming degree, the chances of producing sickness and death.

VI. It is always dangerous to give an infant, especially during the first two months of its life, solid food of any kind—such as bread, cakes, meats, vegetables, or fruit.

VII. Only after the *seventh* month, and when the mother's milk is not sufficient to nourish the child, should broths be allowed. After the first year is ended, then it is appropriate to give light broths of paps, made with milk and bread, dried flour, rice, and the farinaceous articles, to prepare for weaning. A child ought not to be weaned until it has cut its first 12 or 13 *teeth*, and then only when it is in perfect health.

VIII. A child should be washed and dressed every morning before being nursed or fed. In bathing a child temper the water to the weather, carefully cleanse the whole body, for an infant, even more than an adult, requires great cleanliness and care; and the head should be carefully freed from all scabs and crusts which may form. Where the belly-band is used, it should be kept up at least one month.

IX. An infant's clothing should always be so arranged as to leave the limbs freedom of motion, and not to compress any part of the body.

X. An infant's clothing should be studiously adapted to the weather; avoiding at all times exposure to the injurious effects of sudden changes in the temperature without proper covering; but nurseries and sleeping apartments should invariably be well ventilated.

XI. An infant should not be taken into the open air before the fifteenth day after birth, and then only in mild, fair weather.

XII. It is objectionable to have an infant sleep in the same bed either with its mother or nurse.

XIII. No mother should be in too great a hurry to have a child walk; let it crawl and accustom itself to rising on its feet by climbing on articles of furniture, or assisted by the arms of a careful attendant. Great care should be taken in the too early use of baby-waggons, &c.

XIV. No trifling ailments in infants, such as colics, frequent vomiting, diarrhoea, coughs, &c., should be neglected; a physician's advice should be at once obtained.

XV. In cases of suspected pregnancy, either of mother or nurse, the child should be weaned at once.

XVI. A child ought to be vaccinated after the fifth month, or earlier should small-pox be prevalent.

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NURSING AS A PROFESSION.—Lastly, I have to propose another kind of work for idle women to do, actually a new profession. There are a great many ladies who have nothing to do at all; their lives are languid for want of interest; they cannot always be learning things. Besides, learning things becomes wearisome when there is no object in the study. Now, I have heard of a really genuine opening and a new kind of occupation. First, it is real work, and not a sham; next, it is honourable work; thirdly, it is unpaid work—think of that! lastly, it is work which gives very great happiness to the people for whom it is done. On all these grounds it cannot but commend itself to the attention of English ladies. The work is—to go and read to the patients. I believe there is room in the hospitals of London for a small army of such workers. Remember, it must be real work, not amateur work: it must be followed as a duty; ladies must not drop in now and then, once a fortnight, once a month, when they have got no other engagements; they must have fixed hours of work; the Matron must depend upon their services, just as she depends upon her nurses; they must engage and pledge themselves as much as if they were regularly engaged and regularly paid as servants of the staff, and as if their livelihood was concerned in the conscientious and exact performance of their duties. It is not expected that they should go every day and all day, but on certain days and for certain hours. Money, flowers, pictures, easy chairs, toys, books—all may be given for the alleviation of the sick and suffering; but the best thing that can be given—O ladies of tender and compassionate heart—is YOURSELVES.—*Walter Besant.*

MADAME CHRISTINE NILSSON ON SINGING.—God has intrusted to me the gift of melody, and endowed me also with an enthusiasm for its exercise. I love to sing, and cannot help it; it is my life and my enjoyment. But if my auditors in America have received any genuine pleasure from it, I can assure them it is in a great degree due to their own responsive sympathy, which has made the benefit and the obligation mutual.

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MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphate of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

By A PHYSICIAN.

No. VIII.—HEALTH-RESORTS DESCRIBED (*Continued*).

**FALMOUTH**, in Cornwall, 312 miles from London, *via* Great Western Railway. Population about 5,000. This resort is well sheltered, and possesses a mild winter. Snow and frost are infrequent. In summer Falmouth forms an agreeable watering-place. It has less of the bracing character than most other seaside places, and hence may be commended for those who otherwise would prefer an inland air. The beach is sandy. Hotels: Falmouth, Royal. Return fares from London, 97s. 9d., 69s. 3d.

**FELIXSTOWE**, in Suffolk, is 85½ miles from Liverpool-street, London, by Great Eastern Railway. It is distant 5 miles from Harwich, and 12 miles from Ipswich. There is a good beach for bathing, and the air is bracing. This place is well adapted for delicate children and for over-worked persons. The season here begins in July, and extends till September. Hotels: Manor, Pier, Bath, Ordnance. House-agents: C. White & Co. (who will answer all inquiries). Return fares, 23s. 10d., 18s., 14s. 8d.

**FILEY**, in Yorkshire, 237 miles from King's Cross, London, by Great Northern Railway. Filey can also be reached from St. Pancras and other Midland stations. The town is eight miles from Scarborough, and derives its name from the file-shaped "Brigg" Rocks. The town is situated on a low cliff. The air is typically a bracing and invigorating one, and, as has been remarked, all the climatic advantages of Scarborough can be enjoyed at Filey, with the additional advantage of quiet. A saline and iron spring exists. The season here lasts from June to September. A fine long sandy beach exists. Hotels: Crescent, Foord's, Royal, &c. Return fares from St. Pancras: first class, 69s. 6d.; third class, 38s. 10d. From King's Cross: first class, 66s. 2d.; second class, 52s. 2d.

**FLEETWOOD**, Lancashire, 231 miles from London, is situated at the mouth of the Wyre. It is easily reached by London and North-Western Railway from Euston, and is 51 miles from Manchester. The town, which dates only from 1836, is an important shipping place. The scenery round is flat, and the beach is composed of shingle. The climate is mild, and inclined to moistness. Certain lung affections (bronchitis, &c.) are benefited here. Hotels: Queen's, Fleetwood Arms, &c. Return fares from London: 59s., 48s. 6d., 37s. 5d.

**FOLKESTONE**, in Kent, is 71 miles from London, the population being about 19,000. It is an important point of departure and arrival of the Channel steamers of the South-Eastern Railway, which sail to Boulogne, the service here being at present tidal. The air here is tonic and bracing. Despite the cold winds which occasionally prevail, Folkestone forms a safe and agreeable resort from the beginning of June till the end of October. The climate is pure and invigorating, and rain is soon absorbed by the soil. Dyspeptics, and nervous invalids, especially those suffering from overwork, rapidly improve here. The beach is composed of shingle, but bathing-machines are plentiful.

Hotels: Pavilion, West Cliff, Brook's, &c. Return fares: 33s. 6d., 25s., and 31s. and 22s. 6d.

**FRASERBURGH**, in Aberdeenshire, is 579 miles from London and 28 from Aberdeen. The population is about 5,500. The town is situated on the sea-coast, and the air is thoroughly bracing. There is a sandy beach. Return fares from London, 145s., 109s. 6d., 86s. 7d.

**FRESHWATER** (see ISLE OF WIGHT).

**GILSLAND**, Cumberland, is twenty miles from Carlisle, on the Carlisle and Newcastle Railway, and is noted for its mineral waters, which are chiefly chalybeate or iron-waters, one being of sulphurous nature. This resort is eminently adapted in summer for those who cannot bear the sea, and who require a bracing inland air. Hotel: Shaw's.

**GLENGARIFF**, in Cork, is six miles from Bantry. There is a good beach, and the air is pure and mild. Hotels: Royal and Bantry Arms.

**GOUROCK**, Renfrewshire, is a suburb of Greenock, 25 miles from Glasgow. The air is bracing, and from the sheltered nature of the town is also mild.

**GRANGE-OVER-SANDS**, in Lancashire, is 246 miles distant from London. Population about 1,150. Reached *via* Midland Railway from St. Pancras, *via* Furness Abbey. Grange is situated in Morecombe Bay, and a good beach exists. The village is protected on the north and east, and the climate is therefore mild. It is well adapted for lung complaints of not over-serious nature, and for dyspeptics. Hotels: Grange, Kent's Bank. Return fares from London, 71s., 54s. 4d.

**GRAVESEND**, Kent, 24 miles from London (population about 22,000), lies on the south bank of the Thames, and is reached by the London and South-Eastern Railway, by the Great Eastern Railway, and London, Tilbury, and Southend Railway. The beach is not very suitable for bathers; but good baths exist. The climate in summer is mild, and agrees with invalids who are not adapted to bear an over-bracing sea air. It appears to agree well with, and to benefit, sluggish liver affections. Hotels: Clarendon, Mitre, Prince of Orange, Talbot, Clifton, &c. Return fares from London, 3s. 9d., 2s. 10d., 2s.

**GREAT YARMOUTH**, in Norfolk, is 121 miles distant from London by Great Eastern Railway, and has a population of over 46,000. Yarmouth is also reached easily by Midland Railway from St. Pancras. Yarmouth has all the characters of the dry and bracing east-coast resorts. From May to September, the season is well adapted for invigorating the over-worked, and the high favour in which Yarmouth is held as a holiday-resort is due to its effect on those who require a stimulating air. Bronchitic troubles and asthma, as well as certain forms of nervous diseases, do not, as a rule, benefit from a stay here. A long, sandy beach exists. Hotels: Victoria, Royal, Norfolk, Queen's, &c. Return fares from London, 34s., 27s. 4d., 21s. 6d.

**GUERNSEY** (see CHANNEL ISLANDS).

**HARROGATE**, Yorkshire, 199 miles from London. Population about 10,000. This famous resort is notable for its springs, which number over fifty, and which have been in high repute since the end of the seventeenth century. There are no warm springs here, but the waters are usually warmed for drinking. Four groups of springs are found here: (1) Strong sulphurous; (2) mild sulphurous; (3) saline chalybeate, or iron waters, with minerals such as chlorides of sodium, magnesium, &c.; (4) pure chalybeate or iron waters. As regards the first class of waters, Drs. Tichborne and James tell us that,



"with one exception, we possess in Harrogate the two most powerful sulphur-springs in the world." The most celebrated is the Old Sulphur Well, but the strongest is the Montpellier Well. Half-a-pint of the latter contains: Total solids, 63 grains; salines,  $52\frac{1}{2}$  grains; purgatives,  $4\frac{1}{2}$  grains; antacids,  $\frac{1}{2}$  grain; sulphide of sodium, 9-10ths grain. A curious "Alum Well" here contains 88 grains aluminium to the gallon, as well as sulphate of iron and carbonate of iron. The "chloride of iron" water here is unique in character. Another famous spring is the Harrogate Kissingen, which is a mild iron water, resembling the Bavarian Kissingen, and when artificially aerated, makes a good table water. The town is placed on a table-land, 300 to 400 feet above sea-level. The waters on the whole are aperient in character, and Dr. James adds that they do not tend to produce anæmia, or bloodlessness. They stimulate stomach, liver, and bowels, and promote the change of tissue and excretion. From a pint to a pint and a-half acts as a purgative, and "this," says Dr. James, "is divided into three doses, taken at intervals of a quarter or half-an-hour before breakfast." Harrogate is recommended in cases of dyspepsia or indigestion, and in liver-diseases, and congestions or inflammations of internal organs. Cases of nervous disease and of metallic (*e.g.*, lead or copper) poisoning benefit here, and cases of skin disease (*e.g.*, eczema, acne, &c.) are also sent to this resort. The climate itself is tonic and bracing. Gouty and rheumatic patients are treated with the strong sulphur water, and scrofula with the saline chalybeates. Hotels: Queen, Granby, Prospect, Beech Wood, Prince of Wales, George, &c. Return fares from London: 1st class, 56s. 6d.; 2nd class, 44s. from King's Cross. From St. Pancras: 1st class, 58s. 2d.; 3rd class, 33s.

**HARWICH AND DOVERCOURT**, in Essex; placed on the coast 70 miles from London by Great Eastern Railway. Harwich is an important shipping port for the Continental steamers of the Great Eastern Railway. Population about 8,000. Bathing is plentiful. The air is mild for the East coast, and the climate agrees with dyspeptics especially. Hotels: Great Eastern, Pier, Cups, White Hart, Royal, &c. Return fares, 20s., 16s., 12s. 8d.

**HASTINGS AND ST. LEONARDS**, in Sussex; 62 miles from London by London and South-Eastern Railway; 76 miles by London, Brighton, and South Coast Railway. Hastings lies between Dover and Brighton, and is much resorted to during the winter and spring by invalids. It is protected on the N. and W., but exposed to the E. and S.W. The eastern end of Hastings is warmer than the St. Leonards, or western end. Rain dries quickly, owing to the sandy soil, the average rainfall being 28 in., and the annual number of wet days about ninety per annum. The mean annual temperature is 50°, in winter about 40°, spring 44°, summer 60°, and autumn 53°. One advantage which Hastings possesses is seen in the various levels at which the town is built, the higher houses being colder and the air more bracing than below. Invalids can reside here for six or eight months of the year, and those who spend October, November, and December at Brighton may find St. Leonards agree with them in January and February. Hastings is recommended for cases of dyspepsia with debility, for neuralgia, gout, rheumatism, scrofula, and chronic chest affections. The mild winter benefits consumptives, and the percentage of cases benefited here is 44, as against 58 per cent. in the Riviera and 55 at Pau. Children's diseases are largely bettered by residence here. Hotels: Queen's, Royal Marine, Castle, Havelock, Royal Albion, Royal Victoria, Alexandra, &c. Return fares from London, 25s., 20s. express; and 21s., 15s. 6d.

## LIFE-SAVING APPLIANCES.

A LONG and painstaking examination of life-saving appliances shown at the International Fisheries Exhibition was made by the Jury, under the chairmanship of Dr. Silvester, the author of the system of resuscitation now adopted by the Royal Humane Society and others, having to treat cases of drowning. The examinations were commenced soon after eleven in the morning, and were continued until after three in the afternoon, the experimental tests being carried out in the Serpentine. First, a fine new life-boat, the *Arab*, intended for Padstow, and of the well-known type of the National Life-boat Institution, was launched and manœuvred by the crew of the Eastbourne life-boat. So well known are these fine craft by their practical services, that their fame eclipses praise, and the records of the deeds of the gallant men who all round our coasts are always ready to man these unrivalled boats, and to face the severest dangers of the deep, are far higher testimonies than an account of fresh water display on a placid lake. Next to the life-boat in utility and serviceableness in shipwrecks comes the raft. We might, perhaps, put the raft in the first place, as being the only means available in the open sea, whilst the life-boat services are mainly confined to cases of rescue of disabled vessels within sight of land. The handsomest and most ship-shape of this class of appliances was the very substantial one by Mr. Copeman, composed of special buoyant deck seats lashed and framed together with spars, oars, sails, complete for making even an ocean voyage. Some time ago we gave a full account of the first trials of this raft in the widest portion of the Thames, and the high opinion of its excellence which we then formed we still retain, although in the recent trials there was neither the wind nor the weather to interest spectators in its exercises. Another raft was shown by Mr. Williams, of which we formed a very high opinion also, upon the grounds of simplicity, cheapness, and small amount of space required for stowage. Its construction is, perhaps, a little difficult to explain, because the form of the pontoons which float it are so unusual. Imagine, then, a long rectangular washing tub in transverse section about the size of an ordinary washing tub, but about four times as long. Such a tub is made of sheet or thin plate iron. Upon the top of it another one, exactly like it, is inverted, and the two flanges are securely buttoned together by iron buttons. This forms the pontoon. Any number of these tubs can be packed one inside the other in a very small space, and any number of pontoons be made out of them in emergencies when required. Forty such iron tubs can be packed in a space of 7 ft. 6 in. by 3 ft. 6 in. by 3 ft.; and the twenty pontoons that they would form could, it is asserted, be put together by ten men in fifteen minutes. To form a raft, two pontoons are secured together by wooden side-bars, through which the end flanges of the pontoons are passed to secure both together. From side to side upon this framing, and between the pontoons are fastened broad laths, which serve as seats, with canvas folds between them to protect the legs of the shipwrecked people and to prevent any being washed away. The stowage of these adjuncts occupies 12 ft. by 3 ft.; and the capacity of twenty such rafts would, it is said, be equal to the carrying of a thousand souls. For sudden and less serious purposes a smaller raft could be made of a single pontoon; and such was done, the smaller sustaining well no fewer than fifteen persons, clinging by the ropes and otherwise. There are a great many merits in this raft, and it would be very interesting to see a trial in the rough sea. The performances which followed with life-belts, life-buoys, dresses, seats, beds, hen



coops, dining tables, and other available articles which the ingenuity of Messrs. Birt, Rose, Sexton, Steedman, Macalister, Losada, Ostenor, Holmes, Johnson, Brand, and others had furnished were almost bewildering; but, nevertheless, merit of some kind or other was to be found in all. The bed of inflated macintosh cylinders, by Mr. Pocock, presented the spectacle of two recumbent mariners taking their duties of the day in luxurious ease. The effects of seidlitz powders were set forth in an unusual manner by Mr. Cowell Brown's invention. A special or any garment, such as an outer coat, has placed within the lining, at convenient places, small macintosh bags, within which are packets of bicarbonate of soda and of tartaric acid. Each bag lies quite flat as part of the lining, but the lower part of it is made pervious to water, so that when the person wearing it jumps or falls overboard the water penetrates the porous portion of the bag, effervescence of the salts takes place, and the bag is so quickly filled with the carbonic acid gas generated that when the immersed person rises to the surface the bags are distended sufficiently to support him. Another very ingenious kind of dress was that lined with small cords, and illustrated by a young woman unable to swim going into the deep water supported by a Newmarket jacket. There were two very good illustrations of the value of the application of life-saving means to ordinary apparel. Belts and special appliances are rarely to hand when wanted, and as everybody delays putting them on, the emergency too commonly arises whilst the owners are unprepared. When the means of life-preservation form part of an ordinary garment, the wearer has it on when the emergency occurs. The real regret which one experiences on such occasions as yesterday is that the need of such appliances should still be real, when it has long enough ago been within the resources of science to have produced unsinkable ships. The jurors present with the Chairman were Admirals Robinson, Macdonald, and Corbett, R.N.; Captain de la Chauvière, Captain Prouse, R.N., Lieutenant McLellan, U.S.R.M., Mr. Boyd, and Mr. Campbell, of the Chinese Legation.—*Standard*.

**MANKIND'S MISTAKES.**—It is a mistake to labour when you are not in a fit condition to do so. To think that the more a person eats the healthier and stronger he will become. To go to bed at midnight and rise at daybreak, and imagine that every hour taken from sleep is an hour gained. To imagine that if a little work or exercise is good, violent or prolonged exercise is better. To conclude that the smallest room in the house is large enough to sleep in. To eat as if you only had a minute to finish the meal in, or to eat without an appetite, or continue after it has been satisfied, merely to satisfy the taste. To believe that children can do as much work as grown people, and that the more hours they study the more they learn. To imagine that whatever remedy causes one to feel immediately better (as alcoholic stimulants) is good for the system, without regard to the after effects. To take off proper clothing out of season because you have become heated. To sleep exposed to a direct draught in any season. To think that any nostrum or patent medicine is a specific for all the diseases flesh is heir to.

**GLUTTONY**—that is, habitual excess in eating—is a vice in reality. Sometimes this vice is spoken of as epicureanism. "I hear you are a great epicure," said a lady to Hume, the historian. "No, madam," said he, drawing the just distinction, "only a glutton." A true epicurean may live daintily and elegantly, but assuredly, in food and drink, with exemplary temperance.

## Findings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney*.

**THE EFFECT OF TOBACCO ON CHILDREN.**—Dr. G. Decaisne has submitted to the Society of Public Medicine the results of some interesting observations concerning the effects due to the use of tobacco among boys. Thirty-eight youths were placed in his charge whose ages varied from nine to fifteen, and who were in the habit of smoking, though the abuse of tobacco varied in each case. The effects, of course, also varied, but were very emphatic with twenty-seven out of the thirty-seven boys. With twenty-two patients there was a distinct disturbance of the circulation, bruit at the carotids, palpitation of the heart, deficiencies of digestion, sluggishness of the intellect, and a craving, more or less pronounced, for alcoholic stimulants. In thirteen instances there was an intermittent pulse. Analysis of the blood showed in eight cases a notable falling off in the normal number of red corpuscles. Twelve boys suffered frequently from bleeding of the nose. Ten complained of agitated sleep and constant nightmare. Four boys had ulcerated mouths, and one of the children became the victim of pulmonary phthisis, a fact which Dr. Decaisne attributed to the great deterioration of the blood produced by prolonged and excessive use of tobacco. As these children were all more or less lymphatic, it was not possible to establish a comparison according to temperament; but, of course, the younger the child, the more marked were the symptoms, and the better-fed children were those that suffered least. Eight of the children in question were aged from nine to twelve years. Eleven had smoked for six months, eight for one year, and sixteen for more than two years. Out of eleven boys who were induced to cease smoking, six were completely restored to normal health after six months, while the others continued to suffer slightly for a year. Treatment with iron and quinine gave no satisfactory result, and it seems tolerably evident that the most effective, if not the only cure, is to at once forswear the habit, which to children in any case is undoubtedly pernicious.—*Lancet*.

\* \* \*

**THE VALUE OF VARIETY IN DIET.**—Variety in human diet is much more than a mere matter of taste; it is a point of high nutritive value, and one which cannot be neglected if health is to be preserved. While authorities are pretty well agreed as to the composition and relative quantities and qualities of the proximate dietetic principles which are necessary for the sustenance of life, experience has shown, by clear and numberless proofs, that it is not enough to furnish a man with alimentary substances in scientifically accurate combinations and proportions. Without variety in food, at least in civilised communities, nutrition is sure, sooner or later, to fail. To maintain the nutrition of the body in full perfection, it is an absolute necessity that due variety must be introduced into the dietary scale. As Dr. Parkes long ago pointed out, different substances of the same class must be alternately employed. He wrote: "Sameness cloy; and, with variety, more food is taken, and a larger amount of nutriment is introduced." Carried to a certain point, uniformity in diet is good, as, for example, in the hours of feeding, and in the charac-



teristic features of the respective meals. In these points, to live by rule tends to preserve the assimilative processes in healthy vigour. But absolute uniformity in the composition of meals is bad, however excellent the dietetic substances employed. Nature furnishes us with foods of similar, but not of identical, composition in endless variety. The good effects of variety in diet are to be found in its action on primary digestion. Change is grateful to the stomach as well as to the palate, and gives a gentle and natural stimulus to assimilation. Where it is difficult to give any great variety to the composition of meals, much of the good of dietetic change may be secured by giving an artificial variety to foods by a judicious use of the different modes of cooking and dressing meats and dishes suggested by culinary art. The same meat may furnish some of the charm of change according as it is roasted, stewed, or boiled; and the same flour may yield various foods, as it is made into different forms of bread, cakes, and puddings. In feeding soldiers, and the inmates of hospitals, workhouses, and gaols, the good results of frequent dietetic changes have been incontrovertibly demonstrated. With respect to the value of variety of food, as in so many other important sanitary questions, children furnish us with delicate tests. It has been shown over and over again that a great improvement in the health of schools coincides with the maintenance of a various as well as a liberal *cuisine*. In increased attention to securing variety in the kinds of cooking of food for the young, has often been found the correction of bad health in the inmates of seminaries. — *British Medical Journal*.

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**TO CLEAN PAINT.**—When painted work is badly discoloured, put a tablespoonful of ammonia water into a quart of moderately hot water, and with the aid of flannel, wipe off the surface. Rubbing is not necessary. When the discolouration is not great, the following method is preferable: With a piece of clean flannel wet with clean warm water, and then squeezed nearly dry, take up as much whiting, of the best quality, as will adhere, apply this with moderate rubbing to the painted work, and afterwards wash the surface with clean water, and rub it dry with chamois leather. This method is superior to the use of soap, requires but half the time and labour, and leaves the surface cleaned, looking as good as new. It will not injure delicate colours.

## Our Bookshelf

“Reading maketh a full man.”—*Bacon*.

*Food and Home Cookery* (New Edition), comprising the Cookery Scheme of the Leeds School Board. By CATHERINE M. BUCKTON, Member of the Leeds School Board, &c. (London: Longmans & Co. 1883.)

MRS. BUCKTON'S name and work as an earnest and indefatigable advocate of useful domestic instruction in schools are too well known to need any comment from us. Possessed with the idea that, in the case of girls' education especially, it is possible to convey to the minds of pupils some useful practical information regarding those duties of life which sooner or later await performance, Mrs. Buckton has laboured with great success in the field of what may be called technical domestic training. The book before us is a practical illustration of the manner and fruits of such

teaching. In her preface, Mrs. Buckton tells us that the attempt to introduce cookery into the Board Schools of Leeds was begun by putting up a class-room in six of the schools only. At present, however, twenty schools are so fitted, whilst new schools in process of construction are also to possess class-rooms fitted with a cookery cupboard and a small cottage range, &c. Mrs. Buckton tells us, as the result of her experience, that a cookery lesson can be given practically to a class of ten pupils. Members of School Boards and others interested in the practical tuition of girls in cookery and domestic economy could not find a better guide than the tabulated scheme and directions which form the extended preface to the volume before us. From the timetable, for example, we learn that in the first week the pupils are instructed in the use of the damper, in the cleaning of oven-flues, and in laying a fire. The succeeding four weeks are occupied with “practice” following such a demonstration. Then follow demonstrations and practice in such all-important topics as bread-making, the cookery of roast beef, Yorkshire pudding, egg-beating, cleaning



Fig. 1.

cabbage, suet dumplings, Cornish pasties, rice pudding, &c. During this course, extending over the forty weeks of the school year, each pupil makes seventeen dishes entirely herself. The importance of this scheme in sending girls out into active life, fitted to become useful house-helpers or servants, and, in time, economical housewives, is simply immeasurable.

By way of illustration of the method pursued under Mrs. Buckton's scheme, we cull two figures from her book. In Figs. 1 and 2 we see the practice for the Fourth Lesson. Morning practice begins with three tables formed in line (Fig. 1), five girls on the right and five on the left of the cook, with a china bowl for each. A bowl of flour is placed in the centre of each group, with yeast, salt, water, teaspoons, and tablespoons at hand. The girls measure their own ingredients, and make them into dough; and the ten portions of dough are then placed in a large bowl. At 11.15 a.m. the girls return to school, and the second set of



ten pupils take their places. The afternoon practice (Fig. 2) shows us the three tables in line, and the ten occupants each opposite her paste-board. Three boards serve five girls, and the end girl having one, two boards will serve four girls if they stand opposite one another. The dough is duly examined, and its rising noted. It is then weighed into six-ounce masses, and each is made into a small cottage loaf, which is duly transferred to the oven. If the oven is of the right heat ( $400^{\circ}$ ), the loaves will be baked in less than half-an-hour. The second series of ten girls go through a like operation, and a valuable lesson, full of practical details, is thus given to twenty pupils in an easy and satisfactory fashion.

The substance of Mrs. Buckton's book proper, is occupied with clearly-explained details of household management and cookery. The lessons are given in a non-technical form on cookery and domestic economy, including invalid



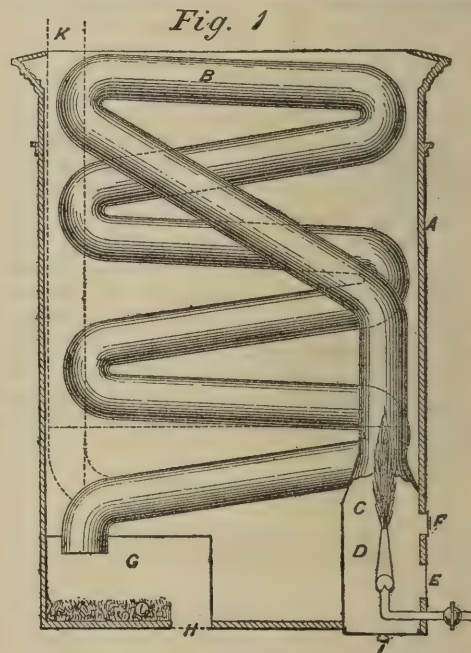
Fig. 2.

cooking. We are glad to notice that special prominence is given to all details connected with the cleaning of cooking utensils, and with the management of ranges, fires, &c. Mrs. Buckton's instruction is founded on a thoroughly scientific basis; and we are pleased to observe that, in addition to the "Cookery Scheme," a "Sanitary Scheme" of instruction is also in operation in Leeds. A lady sanitary teacher instructs both girls' and mixed schools in health lessons. The information given in these lessons cannot fail to prove of vast importance to the masses. If many of our over-zealous reformers would only take a leaf out of Mrs. Buckton's book, and begin their work at the school, and with the instruction of the rising generation in health matters and cookery, we should hear less about unhappy homes and intemperance. It is of the greatest importance that the young should be enlisted in the work of laying the foundations of happy lives for themselves and others; and, so far as we can see, work like that carried on in Leeds forms a model on which every centre of culture might well mould their educational efforts.

## Sanitary Appliances, Etc.

### IMPROVED AIR-WARMING AND COOLING APPLIANCES.

MESSRS. ROBERT BOYLE & SON, of 64, Holborn Viaduct, have recently effected some important improvements in air warming and cooling arrangements, which we have no doubt will prove of considerable value as a simple and, at the same time, economical means of providing a supply of fresh air at such a temperature as will be both safe and agreeable in all seasons of the year. The Air-Warmer is intended for warming the fresh air supply to a building where hot air, water, or steam-pipes are not available. The arrangement consists of a copper or iron pipe about  $1\frac{1}{2}$  in. diameter placed in an inlet tube preferably of the form of a bracket. This pipe is made of zig-zag shape so as to cross and recross the tube from top to bottom, causing the incoming air to repeatedly impinge upon it in its passage through the tube. At the bottom of the tube an air-tight chamber, so far as the interior of the tube is concerned, is fixed, in which a "Bunsen" burner is placed, the flame of which plays up into one end of the pipe which is connected with the top of the chamber, the heat travels through the entire length of the pipe, the other end of which may be made to either dip into a condensation box in the bottom of the tubes, or be continued, as shown by dotted lines in accompanying diagram, up into a flue or extraction shaft. If the pipe terminates in the box, the vapour is condensed there, and carried off through outside wall by means of a small pipe, and any products of combustion which may arise are absorbed and rendered innocuous by passing through a loose bed of charcoal, which covers the bottom of the box. The charcoal should be renewed about once a fortnight or month, according to the extent the tube is used. The diagram below (Fig. 1) shows the arrangement, which is explained as follows:—



A, an inlet tube or bracket, made of galvanised iron and painted, dimensions,  $24 \times 16 \times 6$  in. These tubes can be treated ornamentally to harmonise with the decorations of the room, and, where necessary, may be placed in chases in the wall. The top of the tube should stand about 5 ft. 9 in. from the floor; B, copper or iron tube,  $1\frac{1}{2}$  in. diameter; C, chamber containing the burner; D, Bunsen burner; E, opening covered with perforated zinc in side of tube communicating with chambers for the purpose of supplying air to the burner; F, small hole, fitted with sliding shutter, through which the gas is lighted; G, condensation box; H, opening in bottom of box, to allow of the circulation being maintained in the heating-pipe; J, pipe for carrying off condensed vapour; K, continuation of pipe into flue or extraction shaft; L, movable bottom to flame chamber for purpose of cleaning tube.

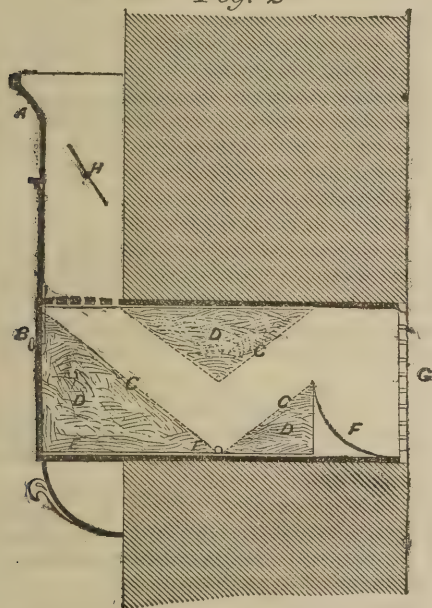
When the tubes are placed against woodwork all chance of fire may be avoided by fitting them with a double casing or jacket, and filling in the space between with asbestos or other non-conducting



material. With this arrangement the air supply can be raised from a temperature of  $30^{\circ}$  to  $130^{\circ}$ ; and to show that it is one of the most economical methods of heating in existence, it is only necessary to mention that the cost of gas consumed to raise the incoming air from a temperature of  $40^{\circ}$  to  $100^{\circ}$  is less than one farthing per hour—this being effected with the air passing through the tube at a velocity of 300 ft. per minute, or 18,000 ft. per hour.

At the Reform Club, where these tubes and heaters, in combination with Messrs. Boyles' patent air pump ventilators, have been very successfully applied, a series of experiments were carried out by the patentees in conjunction with the Right Honourable Acton Smee Ayrton, ex-Chief Commissioner of Works, to whose suggestions we may mention, *en passant*, the patentees are indebted for some important improvements in the apparatus. The result of these tests demonstrated that the apparatus was not only useful for warming the air supply for the purposes of ventilation, but that it might be used as the sole means of heating rooms. On testing the tubes with the anemometer, the air was found to be passing in at the rate of 16,000 cubic feet per hour, the dimensions of the tube being  $24 \times 16 \times 6$  in., one-third of which was blocked up with the heating pipes. They can also be fitted with an arrangement for filtering and freeing the incoming air from blacks and dust. They are not expensive, the price of them ranging from 45s. to 100s., according to size and material used.

Fig. 2



They are applied to a number of buildings (including the Guildhall and Lloyd's, Royal Exchange), and have been found to answer exceedingly well.

The great objection to nearly all methods of admitting fresh air is the disagreeable cold draughts they create. The appliance we have described effectually overcomes this, and should therefore be welcomed as a really valuable addition to the list of useful sanitary inventions which are now in use. Fig. 2 shows the arrangement for cooling the air in hot weather. It consists of an air inlet tube of bracket form, made of iron. The part which penetrates the hole in the wall has an outer casing, so that a space of about half-an-inch is left between, which is packed with a non-conducting substance for the purpose of preventing the heat from the wall penetrating into the interior of the opening and acting upon the blocks of ice which are placed in a movable drawer, and kept in position by means of open galvanised iron or copper wire netting. The front of the drawer is also double and packed same as casing. The outer air entering through the grating is deflected by a metal shield on to the suspended blocks of ice, and from thence on to the ice at the bottom of drawer, and thence up the tube into the room, it being not only cooled, but purified thoroughly from blacks, dust, &c.

This arrangement we should say would prove very acceptable in our fashionable London drawing-rooms during the season.

A in the diagram denotes the inlet tube; B, movable drawer; C C C, wire netting; D D D, ice; E E E, non-conducting packing; F, deflecting plates; G, grating in wall; H, regulating valve.

## SOME SANITARY ARTICLES.

**HOWARD'S MALT HONEY.**—Mr. Herbert Spencer, in his famous treatise on "Education," speaks of the universal love of sweets amongst children. Tracing this predilection to its source, he finds in the importance of sugar as a food the explanation of the fondness for sweets inherent, not only in infants and in "children of a larger growth," but in many animals as well. Starch is changed into a sugar in the course of digestion, and the liver itself is a sugar-forming factory. Sugar supplies to the organism a heat-producing food, and thus replaces the less agreeable fat. In view of the foregoing remarks, we cannot but regard "Howard's Malt Honey," of Messrs. Davis, Davis, & Co., of Manchester, as the product of a "happy thought" in the making of wholesome confectionery. Combined with malt—itsself a ferment acting upon starch—honey cannot but form an eminently agreeable sweetmeat, and a food as well. Free from the adulterations and colouring matters which ruin the teeth, "malt honey" ought certainly to commend itself both to the young folks and to parents and others desirous of supplying children with pure and wholesome "tit-bits."

**HYGIENIC CLOTHING.**—When the demands of sanitarians for hygienic clothing were first laid before the public, the question "Where can such clothing be had?" was not unnaturally asked. It is gratifying to be able to announce that the difficulty of obtaining such clothing has at last been abolished. Ladies who determine, at least, to give hygienic dresses, skirts, underclothing, &c., a trial, will find in Miss Franks, of 23, Mortimer-street, London, W., an able coadjutor. One of the difficulties of sanitarians has been the opposition of the dressmaker and milliner. With the aid of a professed and trained dressmaker like Miss Franks, there should be no difficulty in obtaining hygienic clothes, and, at the same time, of securing a comfortable fit, combined with the elegance and beauty which "rational dress" should, of all other modes, exhibit.

**"MAYFAIR" BISCUITS, &C.**—We have pleasure in directing attention to these biscuits, and to the other food articles exhibited by Mr. Grant, of 146, Oxford-street, London, W., at the recent "National Health Exhibition." These biscuits appear to us to combine, in a very marked degree, the advantages of wholesome bread with the nourishing principles of beef, &c. Armed with a packet or tin of Grant's "Fermented Biscuits," the traveller, by merely soaking them in hot or cold water, obtains at once the nutrient properties of bread and soup. These biscuits are also highly pleasant to the taste, and thus enjoy an immeasurable advantage over the majority of "meat biscuits." As a lunch for school-children, Mr. Grant's biscuits should come into high favour with parents. The "Rusks" of essence of beef and fowl are well made, and are pleasant to the taste. They are likely to become high favourites with invalids.

## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTERS TO THE EDITOR.

### BRACES OR WAISTBAND?

SIR,—An impression of your paper, No. 9, June 8th, reached me a short time since, in which appeared a paragraph headed, "Are Braces Injurious?" Also remarking upon the belt which is worn chiefly by sailors.

I have lately been making inquiry as to the effect of belt and present mode of closely-fitting trousers over the hip. In reference to the sailor, I should conclude, the belt being worn comparatively loose, that little, if any, harm is caused to him. On the other hand, I find, on making inquiries from several who have had their



trousers altered to the close-fitting on the hip, that it is a mistake; for as to be effective for boating, &c., it is essential they should fit or clip so tightly as to become decidedly injurious by undue pressure on the surrounding organs.

In many cases I have found the "Argosy Brace" resorted to, thus meeting the desired want in every particular.

From personal experience I can conceive nothing more complete than this admirable invention, for I take it that whatever tends to relieve the mind of anxiety or worry, must have a healthy effect on the body.—I am, yours, &c.,

SUSPENDER.

#### A MODEL HOUSE.

DEAR SIR,—I have only just seen the account of Dr. Hogg's house at Bedford-park, Chiswick, in your paper of June 1. I am most anxious to explain to your readers, if you will permit me, that the system of ventilation carried out in that house does not at all necessitate the doing away of fire-places, nor the closing of windows. It is unreasonable to suppose that Englishmen will give up the open fire-place. In two more similar houses I am about to erect, there will be fire-places, and the windows will open; in fact, the houses will in every respect have the appearance of ordinary houses, but throughout the day and night the air will be changing in every room two or three times an hour—the fires in the rooms, if lighted, rather facilitating the ventilation than otherwise. This system of ventilation was laid down in detail by Drs. Drysdale and Hayward, of Liverpool, in "Health and Comfort in House Building," 1876. The great simplicity of the system and its practically automatic action are great recommendations.—I am, yours, &c.,

Bedford-park, Chiswick, July 16.

E. J. MAY.

#### VEGETARIANISM.

SIR,—In your issue of the 22nd ultimo there is an interesting letter under the above heading.

The subject is one of considerable importance, since, on its satisfactory settlement one way or the other, depends in great measure the physical well-being of the human race.

If you will permit me, I should like to ask the writer of the above letter a question or two, in a friendly spirit, and subject to correction. I would inquire, then:

1. If the "natural foods of man" are "fruits, roots, nuts, grains, and green-stuff," how is it that the alimentary canal of man (like that of the tiger, wolf, dog, &c.), is specially adapted to the assimilation of flesh food? Tigers, wolves, &c., it will be admitted, find their "natural food" in flesh, and not in green-stuff, &c.; and the conformation of their alimentary canal is quite dissimilar to that of the cow, the sheep, or the deer, all "vegetarians."

2. If man should live on fruits, &c., to attain physical perfection, how is it that we find uncivilised man (a more perfect physical type, surely, than the civilised "human") doing his best to secure a flesh diet—whether it be whale-blubber, pemmican, fish, game, or, alas! "cold missionary?"

I put these queries, not for the sake of argument, but on the *audi alteram partem* principle; and having so done, I beg to withdraw from the discussion, leaving it to abler pens and brains to carry it on.—Your obedient servant,

VESCOR CARNIBUS.

July 14.

#### FILTH FOUNDATIONS.

SIR,—May I call your attention to the case of *Corrie v. Reddin*, recently decided in the Court of Queen's Bench Division. It is a case of great interest to surveyors and to the public on sanitary grounds. It throws light on the manner in which "plague spots" are formed, and it is to be hoped this judgment may prevent similar proceedings in other quarters.

I was the only surveyor called on behalf of the plaintiff, and I put the damages for wrongful getting and sale of sand, &c., at £2,760.

On the part of the defendant, Mr. Vigoe Buckland, Mr. Ebenezer Saunders, and Mr. Dickens were called, who put these damages at about £75.

The Court awarded £2,000 and all costs, and a mandatory injunction for defendant to remove the refuse and filth which he had filled into the pit, from which he had improperly taken the sand and gravel.

The defendant had laid out roads, and was proposing to build houses upon this refuse, which the Judge said would be "pest houses."—I am, Sir, yours faithfully,

CHARLES K. BEDELLS, F.S.I.

6, John-street, Bedford-row, June 25, 1883.

## QUERIES AND ANSWERS.

### GENERAL.

FANNY WILLIAMS.—Your somewhat incoherent epistle has reached us. Your last we took for the letter of a gentleman, from the signature. You are evidently an apt illustration of the phrase, "a woman convinced against her will," &c. Permit us to add that, in styling you "our friend" in *HEALTH*, we had no intention of offending you. A common colloquialism need convey no offence to any well-regulated mind. But you are evidently not accustomed to have your opinions called in question, and we leave you here. A lady who says that "men" who think as we do about the unconsciousness of new-born infants, must be "the natural enemies of all true mothers and little children," deserves to be told, without ceremony, that she should never be contradicted, but allowed to remain (in her own esteem) the only "true mother" and the only "friend of little children" this sad and scientific world knows. The postscript in your letter about "a person in the unconscious (sic) state of delirium suffering great pain," is so delightfully innocent of physiology and sense, that we cannot refrain from presenting it to the world as a novelty in the way of thought.

C. A. G.—No; write to the publishers.

A. ELDER.—All inquiries for copies of *HEALTH* should be addressed to the publishers.

DR. BROWN.—Thanks for your letter regarding Shap Spa as a Health Resort. We shall note it in due course.

RECREATION.—Llanfairfechan, North Wales, on the north coast, 231 miles from London, has a good beach. Climate, that of North Wales generally, bracing. Hotel, Queen's; lodgings rather limited. Route by London and North-Western Railway.

CERES.—The decorticated is possibly a little less nutritious than the whole flour, but the latter is apt to be more irritating than the former.

K. D.—We think you would best be suited by subscribing to the *Dietetic Reformer*, the organ of the Vegetarians. Address the Secretary, Food Reform Society, 91, Oxford-street, Manchester.

### SANITARY.

W. R. W.—Address your inquiry to Mr. Carpenter, Analyst, F.C.S., 32, Holborn Viaduct, E.C.; or to the Analytical Sanitary Institution, 54, Holborn Viaduct. A scale of fees would be sent you on application.

C. H. COOPER.—Your suggestion is a good one, and we have had it under consideration for some time. We shall endeavour to adopt it in time.

### MEDICAL.

B. L. RAM.—Yes; the electrical method of destroying hairs is, we believe, a certain remedy. It is not "expensive," but requires to be medically applied.

JUNO.—Your symptoms of "over-hunger" are common enough. Don't go past your meal time, and try to be regular in all your habits. Try charcoal biscuits for the breath, and look well to your teeth. Yes: Morson's "Pepsine" is thoroughly reliable. The rum and milk should not be taken habitually.

EUREKA.—Take the tonic before meals in water.

A. SMITH.—Try Fellow's "Syrup of the Hypophosphites," a teaspoonful thrice daily in a little water before meals, and don't be anxious. You seem to be quite strong, and only want a tonic.

FLINTSHIRE.—We think you should try the "Æsculap" water as a mild aperient; live abstemiously, and try, in summer especially, a vegetable dietary, fruits, &c. We should recommend you to try a little plain vaseline applied to the face at night. Write again, if not improved.

RAINBOW.—We know nothing of the galvanic appliances mentioned in the pamphlet you send. The only genuine appliances we know are Pulvermacher's, of 94, Regent-street, W. Thanks for the pamphlet. All we can say is, it looks like a quack production, and the author is not a registered practitioner; further, the medical men whose names are appended, do not figure in the present or recent registers.

HENRY JONES.—All we can say to you is to "wish you a green old age," and to advise you to take nourishing food, a little good claret at meals, and to clothe warmly.

G. F. H.—You seem to be entirely "out of sorts." We do not know that we can recommend you anything better than a thorough rest for a time and a change of air. All your symptoms are those of nervous exhaustion, and medicines are of no use without rest and change. You will probably grow worse if you do not arrange for such change. You should have those troublesome teeth extracted.

FRED. HARREY.—No; such results do not thus accrue; and when the general health is good, they should not occur in any case. For the eyes, try a lotion of two grains sulphate of zinc to the ounce of rosewater. Bathe the eyes morning and night.



**HENRY ARMSTRONG.**—1. No; such enlarged veins do not cause any such result as that you mention. Give the parts support, and apply cold occasionally. The veins are harmless, but avoid severe exercise. 2. Sleep on a hard mattress; avoid taking fluids late at night; diet non-stimulating; exercise moderate, and—beware of quacks.

**SACKCLOTH.**—Try Fellows' "Syrup of the Hypophosphites," as ordered to "A. Smith," above. See advice also (2) to "H. Armstrong," above.

**RALPH, REV.**—1. Write to the proprietor of the system, detailing your mind troubles, and hear what he says. We believe it might aid you to concentration. 2. We should recommend you to apply at the hospital you name. We sympathise much with you in your troubles, and think a careful course of treatment would benefit you.

**JUNIUS.**—So far as we can gather from your case we do not think the physical condition you name is any barrier to the step you contemplate. You are nowise diseased, and from the symptoms you name we judge your condition to be perfectly normal—physiologically speaking. Consult a good surgeon if doubts remain. Our own opinion is favourable.

**OLAF.**—We wish we could advise you, but under the circumstances we think your best course is to write to the physician you consulted. We think that the sea-air may possibly be making too heavy demands on your digestion. Try an inland residence in preference, for a time, and see if your troubles disappear.

**J. W. HALL.**—Depends on the exact state of the person's health. If he can stand a bracing air, Whitby or Scarborough, as they are near you. If not capable of bearing a bracing air, try inland North Wales or Derbyshire.

**UNION.**—You must have patience. You are being quite properly treated. You will soon (by attention to your doctor's orders) recover; but it may be some time before all the constitutional effects leave you. You cannot be cured in a day. Keep your mind easy and follow orders. Quacks may persuade you differently, but if you value your health pay no heed to them.

**THEO.**—We fancy you are a highly-nervous individual, but we see no reason to re-echo your groundless fears. Try the tonic recommended to "Sackcloth" above. Let your food be nourishing, and try a change if possible.

**ANTIAGNO.**—Unless you exert moral force and cure yourself of the habit you name, you can never be well. See advice to "Henry Armstrong" above. For the boils, take small and frequent doses of "Æsculap" water, and also try two tablespoonfuls of infusion of quassia and two grains of quinine daily when there is a tendency to the re-formation of the boils.

**PETER.**—We never attend to requests written on *post cards*. If our advice is worth having, it is worth a letter.

**A. N.**—Bathing with, and injection of, cold water, and the use of gall-ointment. Small and frequent doses of "Æsculap" water would benefit you.

**SANS MOUSTACHE.**—Our future articles on the "Beard" in the "Hair" series should merit your perusal. Meanwhile, we should say to you that, so far as we know, there is no application (other than the stimulating lotions already mentioned in the "Hair" articles) which will stimulate hair-growth. Hair-growth is really a constitutional, and not a local, matter.

**GWALIA.**—You are quite mistaken about the nature of the sediment or deposit. Try an injection of Cond's Fluid (one tablespoonful to half a tumbler or so of water), and attend to your general health, avoiding all stimulants. Attend strictly also to cleanliness.

**FLO.**—See advice to "A. N." above. A change of air will best and most quickly cure sleeplessness.

**FRANSE ECRASÉE.**—1. Small-pox marks are practically indelible. Better leave them alone. 2. See our articles on the "Hair," under the head of "Acne." 3. You cannot close the pores of the skin; and a good thing it is you can't. Good health depends on the pores being kept open and free. 3. Thinness is often hereditary. We should not advise you to tamper with your constitution at all. 4. For scurf-cures see our "Hair" articles. White hairs are quite common in early life. 5. Eat fatty foods, and try cod liver oil emulsion. (Not so many questions in one breath again, please.)

**A CONSTANT READER** (will please use some more distinctive name).—See replies to J. WEBB and "F. J. G." in HEALTH, No. 13.

**F. E. M. S.**—See advice to "Constant Reader," above. Sleep on a hard mattress; avoid fluids late at night; and try the tonic recommended as above. If not better, write again.

**F. N. CARETON.**—You apparently suffer from cold in your muscles and nervous debility. For the first we should say try hot salt baths, and rub warm oil into the affected parts. As a tonic, try Fellows' "Syrup of the Hypophosphites." If you can have a change of air, try that as well.

**X. Y. Z.**—Read our papers on "The Hair," especially the part

referring to acne. Try a vegetarian dietary, with occasional small doses of "Æsculap." Take moderate exercise, and attend to cleanliness. Wash frequently with tepid water, to which a little vinegar has been added.

**A WATERING-PLACE VISITOR.**—The Dutch resort you mention should suit you. It is bracing in character, and agrees, on the whole, with the resorts which have benefited you.

**SWEETNESS.**—1. Cases such as yours (if not depending upon organic derangement, which your physicians would have ascertained) most likely arise from some perversion of nervous action. Cases are familiar where, after brain-injury, a person has been troubled with a persistent sensation of bad smell or bad taste. We see no cause for alarm in your case, and our advice is that you should see a specialist in nervous diseases. He may, by examining your saliva even, detect some simple cause for the symptoms. 2. As regards your second question, we should say try the effect of rising at six. With a change of air, and possibly a tone given to your health, we should not be surprised if the "sweetness" disappeared.

**T. A. R.**—We should recommend you to try the effect of a weak injection of Cond's Fluid and water, night and morning. It is but fair to warn you that your symptoms will only disappear when your general health improves. If you could have a change and rest for a time, they would disappear. Give up all stimulants, and try *Fer Bravais*, or Wyeth's "Dialysed Iron," instead of the prescription you send. If not better, write again.

**FRASER.**—What is the evidence on which you found your belief in the "worm" theory? We think you simply suffer from some simple irritation, which the injection of cold water should relieve. Try this, and let us hear from you again regarding the "worm" evidence.

**CIVIS, EDINBRO'.**—We should say consult any of the hospital surgeons. But your case looks more alarming than it really is. If you have not left business for three or four years, we don't wonder that you are ill. You want a change to a bracing air (try North Berwick, and go back and forward daily to business by train). For the pain, give chloroform liniment (applied outwardly) a trial, and take fifteen grains bromide of potass each night in water. Have you tried hot salt baths at Trinity or elsewhere?

**HARD WORK.**—Yes, indeed too hard work, we should say. Your case is one in which the symptoms you complain of are due to the want of change and the confined life you lead. You don't want medicine. Our earnest advice to you is to go for a change and to be less earnest in business. You cannot have physical vigour and suffer mental strain as well. Try Fellows' "Syrup of the Hypophosphites," a teaspoonful in water thrice daily.

**ARTHUR B.**—Is your case not that of "Hard Work" above? You do not say anything about your work or your rest; but we should imagine you are either over-worked, or preternaturally nervous. See advice above given, and write if not improved.

**L. P.**—We do not think the system you mention would benefit you after your severe accident, in which you have our sympathy. You might at least write to the Professor and state your case frankly.

**ST. ANGELO.**—Judicious feeding and nourishment is required to stimulate growth. Many persons seem to think exercise is all that is required. This is a great mistake. If you want to grow as thoroughly as your constitution will permit, do with less exercise, and see to your food. You are burning the candle at both ends, with so much exercise. Tricycling we should prefer (in your case) to bicycling.

**W. HORSHAM.**—Try an injection of a tablespoonful of "Cond's Fluid" to half-a-tumblerful of water, morning and night. You should never, for a moment, hesitate to consult a doctor, who sees many cases such as yours every week.

**J. BARNES.**—Very happy indeed to advise you to the best of our power. We should say—Live generously; (if you can and will) try a little good claret to dinner as a medicinal agent. For a tonic, try that recommended to "Hard Work" above. You might find a wet towel applied to the chest before rising, for a time, a good measure. Can you not accustom yourself to bathing the chest every morning with cold water, and then rubbing dry? Glad to hear from you again.

**SANITAS.**—In such a case, change of air and scene for a time would prove the most effectual cure. There is no course of treatment equal to this. As a tonic try Fellows' "Syrup of the Hypophosphites," a teaspoonful thrice daily, before food, in water.

**ARTHUR, BRUM.**—Consult a good oculist at once. Symptoms like yours deserve the attention of a skilled eye-surgeon.

**K. D.**—Attend carefully to general health, and try an injection of, say, 20 minims of steel drops to 3 ounces of water. A suppository composed of 5 or 10 grains tannic acid to 30 of cocoa butter is better than injections, and should be used occasionally. Failing these means, consult a surgeon.



MICRO-LITERARY D. Z.—Please repeat your question, with fuller details.

M. RAINSFORD.—Kensington is warm, and inclined to be relaxing. Highgate and Hampstead are more bracing. Kew for preference, or Chiswick, by the river.

DICKY.—The trip you propose taking would do good, if you are careful of cold. Try cod-liver oil emulsion occasionally, alternating with *Fer Bravais* as a tonic, and clothe warmly in winter. The plasters should be replaced by a flannel chest-protector.

W. SCOTT.—A cold bath is a stimulant, causes increased circulation in skin and internal organs, and is a health-giving measure. It has no cleansing powers. Hot baths are cleansing, and should be taken twice a week or so. They stand on a different footing from the cold bath, which, if it can be borne, should certainly be taken every morning, if only as lessening liability to cold.

DOMINO.—Try Dunbar or North Berwick, or go further North to the Aberdeenshire coast—Stonehaven or Fraserburgh. The West coast will not be bracing enough for you. Sea-bathing, certainly, carefully carried out (See HEALTH, No. 7, page 109).

B. B. B.—Try syrup of squills, 6 drachms; acid nitric, dilute, 1 drachm; tincture of hyoscyamus, 3 drachms; spirit of chloroform, 2 drachms; infusion of yellow cinchona, to make an 8 oz. mixture. Take a sixth part twice or thrice daily.

C. B. BLACK.—We think you should undergo a careful examination by a medical man. Your symptoms are possibly due to some simple internal derangement which he alone, by personal observation, can treat. For the affection you name, use an injection of cold water and gall-oilment. Possibly that trouble itself is the source of your symptoms.

JOHN TAPSON.—See a professional aurist, or apply at a hospital for ear diseases. Probably the drum of the ear was ruptured; at any rate, your case can only be treated by direct examination of the ear.

## SCOTLAND

BY THE WEST COAST ROYAL MAIL ROUTE.

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—The SUMMER SERVICE of PASSENGER TRAINS from LONDON to SCOTLAND is now in operation.

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		a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
London (Euston Station)	dep.	5 15	7 15	10 0	11 0	8 0	8 50	9 0			
Edinburgh	... .. arr.	4 30	5 50	7 50	9 45	6 45	6 45	7 50			
Glasgow	... .. "	4 45	6 0	8 0	10 0	6 40	6 55	8 0			
Greenock	... .. "	5 52	7 15	9 5	11 42	7 50	7 50	9 46			
Oban	... .. "	9 43	—	—	4 35	12 15	12 15	2 34			
Perth	... .. "	6 50	—	9 35	11 40	8 5	8 15	9 55			
Dundee	... .. "	7 30	—	10 30	12 50	9 0	9 0	12 0			
Aberdeen	... .. "	10 10	—	—	3 20	11 40	2 15				
Inverness	... .. "	—	—	—	8 0	1 30	6 25				

THE HIGHLAND EXPRESS (8.0 p.m.) will leave Euston every night (Saturdays excepted), and be due at Greenock in time to enable passengers to join the steamers to the Western Coast of Scotland. It will also arrive at Perth in time to enable passengers to breakfast there before proceeding northwards. From the 16th July to the 10th August (Saturdays and Sundays excepted) an additional express train will leave Euston Station at 7.30 p.m. for Edinburgh, Glasgow, and all parts of Scotland. This train will convey special parties, horses, and carriages.

A Does not run to Oban or Dundee on Sunday mornings.

B Does not run beyond Edinburgh and Glasgow on Sunday mornings.

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G. FINDLAY, General Manager, L. & N. W. Railway.  
J. THOMPSON, General Manager, Caledonian Railway.

July, 1883.



THE NORMAL CONDITION OF THE FOOT

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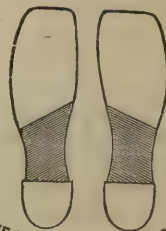
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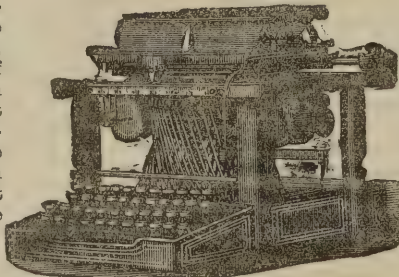
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"Messrs. Beeman & Roberts."

"BISHOPTHORPE, YORK, October 14th, 1882.

**BEEMAN & ROBERTS, Sole Agents, 6, King Street, Cheapside, London, E.C.**



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, JULY 27, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE cholera-mortality still increases, as we write. The bitter lessons at present being given in the East are simply those of outraged Nature. If mankind will live amid filthy surroundings, drink polluted water, and pay no heed to the common laws of health, they must sow a wind and reap a whirlwind in the shape of a high and increasing mortality. In such a case, Nature has no mercy; and it is this very severity and impartiality, so to speak, of natural law, which should teach humanity the evil of disease and the beauty and pleasure of health.

THE most interesting contribution which the past week has made to the newspaper literature of cholera is that of Major-General Bean. As a cantonment magistrate in India, this gentleman passed through several epidemics of cholera. It devolved upon him to take measures for the arrest of the disease, and it is highly instructive to find the power of burning sulphur as an arrester of disease once again demonstrated. Huge bonfires were lit at each end of the infected streets, and plenty of sulphur was thrown on the flames. The fires were also lit in open spaces. General Bean invariably found this plan to check the progress of cholera; and he adds that "the natives imbibed so much confidence in its use that they voluntarily fumigated their own houses." The sulphurous acid gas which (as explained in our articles on "Disinfection") is given off from burning sulphur is a powerful agent in destroying disease germs. If, to the above plan of aerial disinfection, we add the precaution of dealing carefully with all cholera-discharges, there can be little doubt that the disease could be checked in its spread.

A PARAGRAPH is going the round of the newspapers headed, "A Nursery of Disease." The heading is highly appropriate. The details, as usual, are short and simple. A child, aged 7½ months, died from blood-poisoning in Long-yard, Lamb's Conduit-street, London. In the stable-mews tenanted by the parents a rubbish-bin existed; and into this bin, not merely stable refuse was thrown, but offal of other kinds. Sniffing the aerial horrors from this concentration of decay, the child died; the verdict of the jury at the inquest being, "Death from blood-poisoning,

caused by the smell from decomposing animal matter." The Sanitary Inspector stated that the mews were visited every week; that he had great difficulty in getting people to desist from putting "trade offal" into the bin; and that in future he should have the place cleared thrice a week at least. This is as things should have been, but rubbish-bins, so placed that human beings may sniff the aroma of their contents until they themselves are snuffed out by blood-poisoning, should not be tolerated in any system of "sanitation" with any pretensions to the name.

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THE London Sanitary Protection Association held a meeting recently at Kensington Town Hall, at which the Duke of Argyll delivered an address on house-drainage. No new facts were detailed, and the Duke had to repeat the now "old, old story" (but the "ever new one," alas!) of loss of life from the bottled-up sewer-gases which escape into our houses, and which can only be kept in check by attention to our drains. The benefits of the Sanitary Protection Association should, however, be duly noted; seeing that householders, on payment of a small fee, can have their premises examined and reported upon. That "prevention is better than cure," is a remark nowhere more true than when applied to the abolition of disease by effective drains.

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LEAD-POISONING, to which we referred some time ago, has again come to the front. A young woman engaged in a white-lead factory in Southwark died from fits. The usual evidence was given. The absorption of the lead had given rise to the fatal malady: Verdict accordingly. It is high time, we repeat, that something should be done through sanitation to prevent such lamentable deaths.

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THAT sea-sickness may occasionally kill is a familiar fact. Certain individuals appear to be singularly affected on the sea, and cases of collapse and of fatal nature are not infrequent in such persons. The most recent case of this kind is that reported from London, in which a young woman who had voyaged from Copenhagen to England, was found dead in her cabin on the arrival of the ship at Gravesend. The medical evidence at the inquest was to the effect that death was due to failure of the heart's action from prolonged sea-sickness. We shall shortly publish in HEALTH a paper on sea-sickness and its treatment.

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A HIGHLY interesting observation has just been made on what have been called "lightning prints" on the human body. A boy was struck by lightning, and on his arm a curious impression was thereafter found. The "print" resembles the spreading branches of a tree, or the fronds of a fern. Popular notions of the origin of these figures refer them to the imprints of like objects—i.e., ferns, trees, &c.—made by the lightning on the body. But this idea is stoutly combated in the *Photographic News*, wherein a writer refers the "prints" to the action of the lightning on the nervous system, and to the consequent paralysis of the blood-vessels which leave the plant-like markings.

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THE effects of lightning on the human body are really very curious and varied. Wounds, similar to those which might have been inflicted with a blunt, stabbing weapon, have been found, and such results might, it is clear, give rise to ugly suspicions of foul play in a fatal case. Bones have been broken by lightning, and the "drum" of the ear has been ruptured. Strong boots have been burst open, or torn off the feet; and even the nails in the soles



of boots have been found to be expelled by the force of the shock. There seems hardly any freak in the way of injury, in fact, which lightning is not competent to accomplish.

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The *Lancet's* Newcastle correspondent has an interesting note in last week's issue of that journal, on "Tynemouth and its sea-water supply." Pure sea-water is distributed in pipes over the greater part of this town and neighbourhood, and can thus be "laid on," like gas or ordinary water, to houses for the supply of baths. The streets are also watered with sea-water, and as the supply is, of course, inexhaustible, Tynemouth should possess exceptional facilities for the flushing of drains. It is surprising that few seaside towns take similar advantage of their proximity to the sea. There is no reason, we believe, why, under the auspices of an enterprising company, Channel or North Sea water should not be "laid on" in London, for example. We should imagine the engineering difficulties are by no means insurmountable. The "model city" of the future should certainly include a full supply of ozonised sea-water amongst its necessary furnishings.

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Now that "all the world and his wife" are emigrating to the sea, and to holiday resorts, it is well to review the oft-repeated advice, that paterfamilias should see to the sanitary condition of the apartments he inhabits when from home. It is a terrible mockery of health-seeking, when, leaving a healthy home in town, we settle down in an unsanitary watering-place, over defective drains. The time has certainly arrived when Corporations in seaside and other health-resorts should institute sanitary inspections of all houses and apartments which are let to visitors. But that duty which too many of us neglect at home we cannot expect to find discharged abroad. One thing we certainly should find, however, and that is the hotel-keepers prepared to show us the certificates of sanitary inspectors in favour of the healthy nature of our modern caravanserais. A hotel, in respect of its sanitary apparatus, has thrice the duty of a private house to discharge; therefore, all the more need to see that these appliances, in hotels, are thoroughly reliable.

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A WORD to paterfamilias here concerning the holiday tasks of his boys and girls. If he is wise, he will forbid all such, and threaten punishment if such tasks are persisted in. Certain schools set such tasks, and certain boys and girls will conscientiously perform them. This young lady "reads-up" for some "essay" which is to astonish the world, when she should be lawn-tennis or seeking health by the sea; and that young gentleman is "cramming" for a scholarship or bursary, when he should be at cricket or boating. We cannot "burn the candle at both ends" with any hope of health. If, therefore, parents are wise, they will see that health is before all else, and insist upon the health of their children being the first consideration in holiday time.

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If the researches of a French microscopist be true, it would seem that rabies in the dog—the disorder which produces hydrophobia in man—may probably be due to the presence and growth of a minute living particle. At any rate, low forms of life were found in the nervous systems of affected animals, but were entirely absent in the healthy state. It would be strange if the curious "canine madness" should prove to be caused by a parasite, but as yet we are very far removed indeed from such proof.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### SOAP AND WATER.

BY AN OLD SOAP-MAKER.

"Cleanliness is next to Godliness."—*Talmud*, altered by John Wesley.

THE two excellent editorial articles upon the skin in relation to health,\* and the great importance of due attention to the condition of that marvellous superficial covering of our bodily organs, have made me feel that a few practical remarks upon toilet soaps by one who, until recently, was personally engaged in the soap manufacture for twenty years, may not be without interest, and probably also not without value, for the readers of *HEALTH*.

Soap, as is well known, is, in chemical language, a *salt*, i.e., a combination of an acid and a base. "Soft" soaps contain potash as a base, and "hard" soaps, soda, while the acids in both cases are derived from fats, or a mixture of fats and resins. Yellow soaps owe their peculiar smell and other characteristics to the presence of resin, which is frequently, although quite erroneously, spoken of as an adulteration of soap, and from which all "curd" and "mottled" soaps are free. For true economy and efficiency in domestic and laundry use there is, in our opinion, nothing to equal the *genuine* old-fashioned "curd-mottled" soap, which cannot possibly contain more than about 30 per cent. of water (corresponding to about 63 per cent. of fat), and does contain a slight excess of alkali; for this reason, however, its use should be confined to the laundry and the scrubbing-brush. Of late years, however, an *imitation* grey, blue, and red mottled has appeared in the market, containing about 42 to 45 per cent. of water (and only 45 per cent. of fat), and much less efficient. Perhaps quite as economical for household use, and certainly cheaper, is Sinclair's cold-water soap, now extensively advertised, which is artificially dried and compressed, and contains not more than about 22 per cent. of water, or nearly 70 per cent. of fat. A very similar soap is made by C. Thomas & Bros., Bristol. It is with great satisfaction that we have recently observed in the advertising columns of *HEALTH*, the statement that a given soap (Lucas's "Excelsior") contains 75 per cent. of fat; for we have long held that the percentage of fat in a soap is the true basis on which it ought to be valued, and to be bought and sold.

The theory of the action of soap in removing dirt is not altogether fully understood. A properly made soap ought to contain enough alkali fully to neutralise or saturate the fatty and resinous acids, for resins are acids, and form a "salt" with caustic soda just as fatty acids do; and the neutral salt thus formed has the power of dissolving up any particles of grease upon the skin which the application of the same quantity of alkali in the form of carbonate of soda, or caustic soda, alone, would not remove, while, at the same time, that would act injuriously upon the skin. There is a phenomenon long known to microscopists as the Brownian movement of small particles, in virtue of which certain very minute inorganic particles (as, e.g., of clay) suspended in water, are in incessant movement; the late Prof. W. Stanley Jevons, who studied this phenomenon, called it *Pedesis*, and showed that the addition of many soluble substances to the water greatly increased this action, and among these, the pedetic action of soap was most noticeable. These observations the pre-

\* See Nos. 2 and 3 of *HEALTH*.



sent writer has confirmed, and hopes to extend. It would appear, therefore, that soap does materially increase the pedetic action in dirt when it is applied with water to the surface of the skin, and thus assists in loosening it.

While heartily concurring in the editorial condemnation (*HEALTH*, Vol. I., No. 3, p. 37) of "crude yellow or common soaps," we feel it right to point out that the *best* quality of so-called "yellow" soap is probably about the most perfect soap, from a chemical point of view, that can be made, and the least likely of all soaps to contain excess of alkali, or other injurious material, owing to the method of its manufacture, into which it is now beyond our scope to enter. This is usually known in the trade as "Primrose" soap, and is the finest quality of household yellow soaps of all good makers. In London, genuine "Knight's Primrose" is a widely recognised standard. This kind of soap is pure and unadulterated, just as removed from the soap-copper, and should not contain more than 32 per cent. of water (or 62 per cent. of fat); the greatest pains are taken to free it from all impurities, and it is used by perfumers as a basis for a very large number of so-called toilet soaps.

Toilet soaps which are not made in this way (*i.e.*, by re-melting Primrose soap, and adding thereto perfume, glycerine, colouring material, or any of the various antiseptics, such as carbolic acid, thymol, terebene, &c., &c., all of which last are exceedingly useful) are usually made by what is known as the "cold process," in which the proper proportions of soda ley and fatty matter are mixed together in small quantities at a temperature much under that of boiling water, and their combination takes place slowly. Soaps thus made usually contain cocoa-nut oil, which is very apt to leave an exceedingly unpleasant smell on the hands long after washing. They are also open to the more serious objection of being liable, from their mode of manufacture, to contain free alkali, either from an excess having been accidentally added, or from the combination being imperfect.

Probably the most perfect soap for toilet use is one made originally by the old-fashioned process of boiling and "fitting" (which all "yellow" soaps go through), by which all extraneous alkali and other impurities are removed; the soap is subsequently partially dried, mixed with the perfume, colour, &c., in the cold state, and finally subjected to intense pressure (sometimes two tons to the square inch) in the process technically called "plotting," from the French *pelotage*. Those interested in the detail of these operations, and in the general question of soaps, their manufacture, valuation, and uses, may refer with advantage to the article *Soap* in Spon's "Encyclopædia of Manufactures and Raw Materials."

Transparent soaps, whether with or without the addition of glycerine, owe their transparency to the use of alcohol in their manufacture. Their appearance is a guarantee that they contain no adulterant, but they may contain cocoa-nut oil, and also free alkali, which is soluble in alcohol. The presence of this, however, in any soap, whether transparent or not, speedily makes itself evident when the soap stands long in a dry place, by the crystalline crust which forms on its surface.

It is almost needless to add a word in commendation of the transparent soap with which the name of "Pears" is so closely associated. We have reason to believe that most careful chemical supervision is exercised over the proportions of the materials used, and that the soap is kept for many months before it is issued to the public, in order that it may get thoroughly dry and well combined, and that any irregularities of composition, such as are hinted at above, may have time to declare themselves. "Pears" is a first-rate soap, and has become a household word for purity.

Two hints, in conclusion, as to the use of any soap on the person. Firstly, never wash your hands with soap if there is any vinegar, or other strong acid, upon the skin; but always rinse this off beforehand in plain water, or water to which a little soda has been added. The mineral acid in the pores of, and upon, the skin, decomposes the soap, and sets free an insoluble fatty acid in these pores, choking them up, and rendering them utterly unable to discharge their proper functions. The same remark applies to the presence on the skin of any chemical "salt," which should always, if possible, be removed by water alone first; if this be not done double decomposition is apt to ensue, with the formation in the pores of the skin of insoluble soaps with metallic bases. Secondly, always, if possible, use *soft water* for washing, and especially for the hands and face. Those who have never tried it have very little idea of the immense difference in comfort, as well as in the economy of soap arising from its use. The salts of lime, which make the water hard, decompose the soap, and render much of it inefficient, as well as, to some extent, tend to deposit an insoluble lime soap in the pores of the skin, with the results before mentioned. The present writer set up a cistern to catch the rain-water from the roof of his house, solely for toilet purposes, with the happiest results to the ladies and children of his household. Where soft water cannot be obtained, the addition of a few grains (say from ten to twenty) of pure carbonate of soda to every jug of water in the bedrooms has a very good effect, but if the quantity much exceeds this, or common washing soda be used instead, delicate skins may suffer.

## CHOLERA.

### SECOND PAPER.

THE cause and origin of cholera are far from being regarded by authorities as settled matters; but the opinions of the majority of physicians bear towards the belief that, like typhoid fever, typhus fever, diphtheria, and other febrile disorders, cholera owes its origin to the growth and propagation within the human body of a specific living organism. All we know from the results of recent researches, regarding the nature of the contagious matter of other diseases, clearly points to the foregoing belief as that most fully justified by facts as they stand. The manner in which cholera is propagated, its march following an infected line, its conveyance from diseased to healthy subjects, all point to the disease as one which owes its existence to living germs. These germs attack the digestive system especially, and thus by their growth and rapid propagation induce the symptoms of the disease. These symptoms, in other words, are the evidences of the operation of the special poison-matter which produces cholera.

Dr. Macnamara, in Quain's "Dictionary of Medicine," remarking the invariable beginning of cholera in India, says:—"The disease has never broken out spontaneously in any other part of the world—no amount of filth, bad food, or climatic influences have up to the present time induced a widespread epidemic of cholera. The inhabitants of countries far removed from Hindustan, and having limited communication with that empire, such as Australia, have not experienced the disease; whereas, those states which have been brought into intimate relation with India have become frequently subject to outbreaks of cholera." It would thus appear as though in India special conditions existed for the development of this disease. Once developed, cholera becomes capable of transmission. Pettenkofer holds that cholera-material which, passing from the human body sinks into the ground, may there undergo changes—



due to the nature of the soil, moisture, heat, &c.—causing it to rise into the air, and may thus communicate the disease to those who are predisposed, from any cause, to its influence. Recent researches in India, carried out by Drs. Lewis and Cunningham, favour some such conclusion. These views tacitly hold that the disease owes its origin to some specific matter which produces cholera, as rigidly as small-pox material reproduces that disorder and no other. There is no lack of evidence to show that cholera is conveyed to the healthy from the bowel-discharges of the sick. We have most practical proof of this all-important fact, the bearing of which on the preservation of the public health is clear enough, as demanding the effectual disinfection and destruction of all such discharges. The risk of infection from cholera is small, provided the healthy are not thrown in the way of these infected matters. But it has been pointed out, that if cholera-patients be treated in badly-ventilated rooms, the organic matters containing the poison of the disease may become disseminated through the atmosphere, and may be inhaled into the system by attendants on the sick. Fresh air and good ventilation come to the point here, as elsewhere, as preventives of infection.

The proofs that cholera is propagated through contamination of water or other fluids with matter derived from the bowels of cholera-patients were afforded by Dr. Snow in 1854 in the celebrated London Broad-street case. There, in the parish of St. James's, Westminster, a violent outbreak of cholera occurred in the year just mentioned. No fewer than 486 fatal cases occurred between August 31st and September 8th, 1854, within an area bounded by a circle whose radius was only some 200 yards. The sufferers had drank the water of a pump-well in Broad-street. This well had a widespread reputation for the purity and sweetness of its water. The handle of the pump had, in fact, to be removed to prevent the further use of the water, which, on analysis, was found to be highly charged with offensive organic matter. After the vestry order which removed the pump-handle on September 8th, the cholera gradually subsided. Later examination showed that the sewage of a neighbouring house leaked into the well, and that a patient suffering from cholera, or from a form of choleraic diarrhœa, was resident therein before the occurrence of the general outbreak. Here, beyond question, the water, contaminated by the excretions of this patient, spread death broadcast amongst those who drank the infected supply. Another equally convincing case occurred in 1866 in the East of London. This case, reported upon by Mr. Radcliffe and Dr. Farr, appeared to lay the blame of the epidemic at the door of impure water. Dr. Macnamara tells us of another case, in which a small quantity of the "rice-water" discharge of a cholera-patient was accidentally mixed with four or five gallons of water, which was exposed to a tropical sun for some hours. Next morning nineteen people each swallowed an ounce or so of this water, and within thirty-six hours five of the nineteen were seized with cholera. Here direct contamination was traceable; and the small percentage of those attacked may possibly be explained on the ground that the water had been exposed so long to sun and air, this treatment probably modifying the virulence of the poison.

To sum up, it would appear to be proved that, whether or not cholera is actually engendered from its specific and dormant germs in India under conditions of filth and impure water, or whether it owes its development to special and unknown conditions, two conclusions are deducible from a study of cholera-epidemics. These conclusions are, firstly, that cholera is due to a specific

poison which is contained in the bowel-discharges of patients suffering from the disease, and which, when conveyed to the healthy, reproduces this affection. Whilst, secondly, it seems proved that this poison is conveyed usually in impure water to the healthy; that cholera invariably appears in its worst guise, both in Europe and in Asia, when the water-supply is of impure description; and that the substitution of a pure water-supply abolishes the disease. In Berlin, in 1866, cholera occurred in 36·6 per cent. of the houses provided with pure water, whilst it occurred in 52·3 per cent. of the houses where a bad supply was provided. The following table shows clearly the same facts in the history of Manchester and Glasgow:—

MANCHESTER.				
	Polluted Water-Supply.		Pure Water-Supply.	
Year .....	1832	1849	1854	1866
Number of Deaths .....	890	1,115	50	88

GLASGOW.				
	Polluted Water-Supply.		Pure Water-Supply.	
Year .....	1832	1849	1854	1866
Number of Deaths .....	2,842	3,772	3,886	68

(To be continued.)

**KEEPING BUTTER IN HOT WEATHER.**—Of course to preserve butter through the summer months we should be careful to make only the very best quality, and then adopt the best method of excluding it from the air. The *National Live Stock Journal* says:—"If butter is put in the best condition, and kept from the contaminating contact of air, it will come out as rosy in colour, and fine flavour, in October or December, as when put up in July or August. There have been different ways devised for excluding the air; but perhaps the best way is to suspend the butter in strong brine. The butter is put into a muslin sack, and then suspended in a tub three inches larger all around than the sack of butter. Where butter is made in considerable quantity, it is put up in sacks holding one hundred pounds, and these are suspended in oak barrels, which are made tight at both heads; the upper head has two cleats on the under side, one and a-half inches thick; this is to keep the sack of butter under the brine, as it would otherwise rise to the top. The upper head is taken out, the sack put in, the head replaced, and the brine poured through a hole in the head, and, when full of brine, this is plugged. This barrel, standing in a cool place, will keep. The butter is better when put up in granules, only having been washed in brine, but not salted or worked; and when taken out it is then worked and salted, and will be found as fine as when fresh. The brine excludes the air, and all is preserved."

**DRESS AND NATIONAL PROSPERITY.**—Dress, like domestic furniture, is a remarkable key to the existing temper of a nation. The climate, the character, and the moral tone of the populace all go to determine their costume. When the land prospers, materials become rich and handsome, and forms grow various and sometimes eccentric: garments are many and easily replaced. When famine and bloodshed have clouded the heart of the State, the fashions become rather utilitarian than beautiful, for folks have graver things to think of than the adorning of the body: garments are few, durable, and long preserved.

**THE FAITH-CURE.**—"Have you ever tried the faith-cure?" asked a long-haired, sallow-faced stranger, addressing a gentleman who sat behind him in a street-car. "I have," was the answer. "Do you believe in it?" "I do." "May I ask, then, of what you were cured?" "Certainly. I was cured of my faith!"—*Boston Medical and Surgical Journal*.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### HAY FEVER.

By F.R.C.S.

THIS well-known affection may, in one sense, at least, merit mention under the head of "Personal Health," from the great inconvenience, pain, and misery to which it subjects those who suffer from its attack. Known also by the names "hay asthma," "summer catarrh," and as "Bostock's catarrh," the disease in question, although of simple nature, is, nevertheless, of highly annoying character. If it is a comparatively trifling matter to some patients, it is, on the other hand, an affection which, in the case of others, causes a nervous irritation and depression that leave the sufferer well-nigh prostrate. It is, therefore, desirable that some information should be afforded regarding its nature, cause, and cure; and such details may, perhaps, prove, in the best sense of the word, highly "seasonable" at the present time. The disease is very prevalent at the hay-season in June, but it is known to occur later on as well. Its cause appears to be the action of the *pollen*, or fertilising matter (familiar to all as a yellow dust in common flowers), of the grasses chiefly; but Mr. C. H. Blackley is of opinion that the pollen of plants belonging to many other orders will cause this affection. For example, he gives a list of plants—from the buttercup, wallflower, poppy, pink, geranium, lily, rose, and other tribes—the pollen of which, he says, will produce hay fever. In experiments in which the pollen of these plants was inhaled against or applied to the mucous or lining membrane of nose, lungs, windpipe, eye, tongue, and throat, this affection was produced. But the pollen of grasses was the most powerful in inducing the disease, and rye in particular was noted for its potent effects in the production of hay fever. This is a curious fact in itself, when we consider that rye gives us, when in a diseased state through the action of a fungus, the "ergot of rye," a medicine having highly potent effects on the human frame. Spring grass and hay exceed rye, however, in their potent action, whilst exposure to the odour of ipecacuanha powder has been found to produce hay fever in some cases, which were, however, probably predisposed to this affection.

It is interesting to note that in the United States an almost similar "fever" is produced by exposure to the influence of roses. The "Queen of flowers" is thus credited with the power of producing a diseased action, for the *rose fever* or *rose asthma* of America prevails in those places where roses are largely cultivated. A recent writer, speaking of hay fever, says:—

"While there is very strong evidence to show that hay-asthma is proximately caused by the irritative action of the pollen of certain grasses upon the mucous membranes of the eyes and nose, a study of the literature of the subject, and of the histories of actual cases of the affection, abundantly proves that an essential, if little understood, factor in the causation of the malady is some peculiar idiosyncrasy which renders some people prone to become the subjects of the disease. One of the most curious facts about hay-asthma is that it especially affects the "well-to-do," while haymakers and others who work amongst hay are almost exempt from it. The best account of hay-asthma with which we are acquainted is that given by the late Dr. Elliotson, in his well-known and valuable work on the Practice of Medicine. One of the earliest essays on the

disease is that of Dr. Bostock, the celebrated chemist, who was himself a sufferer from the malady, and who ably described it, under the name of "catarrhus æstivus," in the tenth volume of the *Medico-Chirurgical Transactions*. Dr. Bulman, of Newcastle-upon-Tyne, quoted by Dr. Elliotson, gave a remarkably clear clinical description of the affection, founded on several cases which came under his own notice. According to his experience, the disease invariably commences about the second or third week in June, with a sense of uneasiness, heat, and itching of the conjunctivæ (or whites of the eyes). These symptoms are attended with watering of the eyes, increased secretion from the Meibomian glands (of the eyelids), a sense of fulness and distention of the eye-balls, intolerance of light, and weight in the forehead. The itching gradually increases, and, in severe cases, soon becomes almost insufferable. In the course of a few days, especially if the patient have exposed himself to the sun, the irritation and inflammation extend to the Schneiderian (or lining) membrane of the nose, causing itching and stuffing of the nasal passages, with increased secretion of mucus and frequent paroxysms of sneezing. These paroxysms are sometimes also excited by dust of any kind, exposure to heated external air, effluvium of new-made hay, the odour of the bean-flower, &c. As the disease advances, the mucous membrane of the throat, windpipe, and air passages becomes affected, giving rise to a sense of dryness and itching, or pricking in the throat, tightness of the chest and difficulty of breathing, and to cough, with which there is little or no expectoration. In severe cases there are several violent fits of sneezing daily, which are accompanied by a copious discharge of mucus from the nasal passages."

The truth of this lucid description will, unfortunately, be attested by too many sufferers. It is curious to note how certain conditions of the air, &c., will act as a check to the spread of cases of hay fever. Warm, damp weather increases the spread of the disease; whilst dry, hot weather and cold weather and heavy rains respectively decrease its spread by affecting the dispersion of the pollen-grains. Mr. Blackley found, also, that at from 1,000 to 1,500 feet above sea-level pollen was found in greatest quantity. One attack of hay fever appears to predispose the sufferer to another attack; and the deafness which sometimes follows frequent seizures is doubtless due to the inflammation which is set up in the Eustachian tubes—or those tubes which lead from the mouth to the ear.

The all-important topic of *treatment* assumes two phases—those of *preventive* and *actual* measures. Naturally, the first advice is to avoid the cause, and to turn one's back on hayfields and the country at large during the hay season. A change to the seaside has been found to prevent an attack, and also to cure a seizure, and this hint might therefore be borne in mind; but at the seaside, the patient should avoid the vicinity of the grasses, &c., which often grow luxuriantly by the sea. Weakly persons, and those "out of sorts," may be recommended to resort to general tonic measures when a liability to hay fever is incurred.

The *actual* treatment includes a long list of drugs and remedies. First, probably, in rank of utility come "spray" applications (applied by means of a "spray" producer) of solutions of *carbolic acid* (eight grains to the ounce of water) and *sulphurous acid* (equal parts with water). *Sulphate of quinine* (2 grains to 1 ounce, with acid), or tannic acid (4 grains to 1 ounce of water), may also be tried. The spray is to be directed to the nose, throat, eyes—and, in short, to all the affected surfaces. A diluted nitrate of mercury ointment has been recommended as an application to the eyelids, and medical experience likewise speaks highly of "a solution of chlorinated lime or soda



used as a wash to the face and as an inhalation." Ipecacuanha, which, as we have seen, may cause the disease, was, in Dr. Hyde Salter's opinion, a cure therefor. Bathing the face with water as hot as could be borne will also give relief. Smoking tobacco has also been tried; and to the list of inhalations *creosote* may be added; 30 drops in this case are to be placed in 8 oz. of boiling water, and the vapour inhaled once or twice a day. Mr. Phillips, of Andover, has recently described in the pages of a medical contemporary his treatment of hay fever with *belladonna*—a drug the prescription of which had, however, better be left to the medical attendant. The prescription used consisted of 24 minims of *succus belladonnæ* (or juice of belladonna), to 3 oz. of water, a teaspoonful being given every hour till relief is obtained. By the prescription of half a drachm of belladonna to 3 oz. of water (the dose being as before), the feeling of relief obtained by using the weaker mixture was increased; and the mixture was also used as a lotion to the eyelids. The marked success of this remedy, which appeared in Mr. Phillips' case to act as a preventive also, may induce practitioners to try its effects. If the sufferings of "hay-fever" patients be lessened thereby, there can be no question of the extreme value of this remedy, which, we repeat, should on no account be used without medical sanction.

LEFT-HANDEDNESS AMONG THE ANCIENT HEBREWS.—A curious question has lately been raised, as to whether the ancient Hebrews were a left-handed people. Dr. Erlenmeyer has just given an interesting and learned lecture to prove that they were. Most of the Aryan peoples, as we know, write from the left to the right of a sheet of paper, and their books are so printed as to be read in this direction. Most of the Semitic people, on the contrary, write from the right to the left of the paper. Hitherto, this very emphatic difference has been simply represented to be a mere characteristic of habit, kept up by the reverence for tradition, which is deeply rooted in the Semitic mind. It has never occurred to any one, so far as we know, that the direction taken by the hand of a Semitic scribe in writing was due to a physiological cause—namely, to the fact that his left hand was his better hand, and was much more ready and "dextrous" than the hand which we Aryans call the dexter. Dr. Erlenmeyer insists that the writers of the Old Testament, and probably the early Talmudists after them, naturally wrote with their left hands, and would have found it difficult, if not impossible, to write with the other hand. Hence it was only natural that the manuscript should travel along a line which started from the right and ended on the left. Dr. Erlenmeyer says that this hypothesis is not a mere happy thought of his own, but that he has found striking confirmation of the theory in the Talmud. For instance, he cites a passage which insists that certain special prayers and inscriptions are always to be written with the right hand, and not with the left. The execution of this exceptional prescription was a work of time, patience, and difficulty, and it is implied that the process of writing with the right hand was a departure from the ordinary, easy, and natural way of writing. The learned doctor also cites passages from the Hebrew of the Old Testament, in which a particular stress seems to him to be laid upon the "left-handedness" of the old Hebrews.

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## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. XIII.—THE GENERAL BUILD OF THE BODY.

BY A. J. MANSON.

WHEN we regard the human frame from an anatomical point of view, and consider the obvious complexities of structure it exhibits, we are strongly tempted to regard the body as possessing a type which is peculiarly its own. This is specially apt to be the case if we do not possess a knowledge of natural history or comparative anatomy. If we merely regard the human body by itself, and apart from every other living being, we cannot fail to gain the idea that it is built on lines unlike those seen in the conformation of any other tenant of the globe. But this notion is destined to complete refutation when we enter upon a study of our lower neighbours. No animal stands apart from its neighbours, or completely isolated from the great world of life of which it forms part. When, also, we begin to investigate, even roughly and casually, the forms of other living beings, and especially of those which approach most nearly in appearance to man's form, we may detect likenesses between the human and lower types which would appear to warrant the belief that, after all, man, viewed as an animal form, does not stand alone in the world of life.

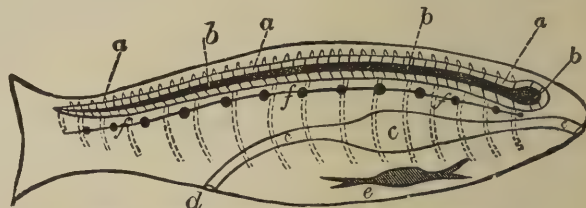


Fig. 1.—Diagram of Vertebrate Structure.

Viewed as a living being, man falls naturally enough into a certain great division of the animal world, known as that of *Vertebrates* or "backboned" animals. The possession of a spine or backbone (Figs. 1 and 2), or its representative structure, is the great feature whereby this division of the animal world becomes mapped out. Now, in this *Vertebrate* group there are included five classes of animals. These classes, so to speak, are only modifications of one and a common type to be presently discussed. The five divisions are—(1) the fishes; (2) frogs, newts, &c. (or *Amphibians*); (3) reptiles; (4) birds; and (5) mammals or quadrupeds. It is in the last class that humanity finds a scientific home; and man is accordingly placed at the head of the great class which owns the kangaroos and like animals as its lowest representatives, and the bats, apes, and himself as its highest.

But when we say that man is a "vertebrate animal," it is well to point out that, as such, he shares a certain common type of structure with all the members of that division, from the fish upwards. He is, in other words, in his *general* characters, a "vertebrate;" in his more special characters, a "quadruped-vertebrate;" and, in his still more marked features, a "man-quadruped."

In proof of these statements, let us consider for a moment the general type of the vertebrate group. If we select the body of a fish (Fig. 1) for examination, we may discover, on making a longitudinal section of its body, that it possesses its *nervous system* (b b) on its back, enclosed



within a bony tube formed by the skull and spine (*a a*). Through the middle of its body runs the digestive system (*c*), and lowest down, or in the floor of the body, is the heart (*e*). The chief systems of the body in the fish are thus seen to possess a definite enough arrangement. Now this arrangement is, firstly, common to all fishes. Secondly, it is found in all frogs, reptiles agree with its details, birds exhibit a like structure, and quadrupeds and man, also throw in their lot with this type. A horse, for example, or a bird, equally with the fish, carries its nervous system in the back, its digestive system in the middle of its body, and its heart lowest. It is the same with the man. Whether the human being places himself in the position of the lower animal, and goes down on his hands and knees in imitation of the attitude of lower life, or whether he remains erect, the great systems of his body do not alter their place and arrangement within his frame; so that our diagram (Fig. 1) of the fish will serve equally well to express the rough facts of the anatomy of man. It will stand as the expression of the common vertebrate type; and, as such, shows that this type is represented throughout the wide circle of "backboned" life.

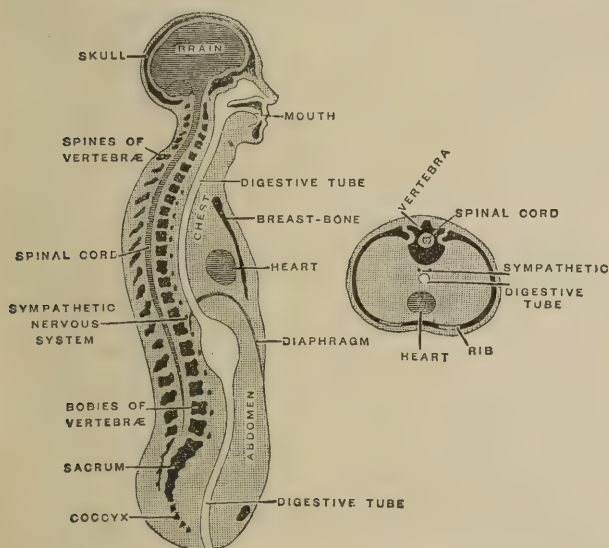


Fig. 2.—Longitudinal and Cross Sections of the Body.

So far, then, man has no general type of body peculiar to himself. It might be shown also that of more special features of his anatomy, the same remark holds good. He agrees with every vertebrate animal in possessing his limbs in pairs, and in never developing more than two pairs, which are supported by the internal skeleton we have already studied. His jaws, like the jaws of lower vertebrates, are invariably parts of his head, and not, as in backboneless animals (like the lobster or insect), modified legs. His liver is supplied, like that of the fish, frog, reptile, bird, and quadruped with impure or venous blood, for the manufacture of bile; and, like these animals, he also possesses a set of *absorbents*, or vessels branching through his body, and aiding in the process of blood-making.

If we make a section lengthwise through the human body as shown in Fig. 2, we may be able to perceive more clearly still the unity of type which man exhibits with his neighbour vertebrates. The brain and spinal cord are seen enclosed with their bony tube (skull and spine) as in the fish; and as in all other vertebrated animals, these great nervous centres occupy the back region of the body. In front of the spine and skull (which thus form a *nervous*

*tube*) we see a second tube formed by the walls of the body. Therein we find the digestive system, as in the fish (Fig. 1), occupying the middle of the body; whilst in front the heart is found. If we simply turn such a diagram lengthwise, to correspond with the position of the fish, we may then see how exactly the one frame imitates the other in the general plan and arrangement of its parts. A cross section of the body shows the double-tube arrangement more clearly still. Cut across at about the level of the heart, we can see in the cross-section (Fig. 2) how the spinal cord lies within its own tube, behind, or above, and how the digestive system and heart (with the second system of nerves, the *sympathetic system*) are enclosed in the front or lower tube formed by the walls of the body.

Comparative anatomy thus teaches us that man's body is simply a high modification of a type common to all the Vertebrate races. He takes his stand at the head of this, the highest type of animal life; and as the "lord of creation," shows, nevertheless, the strongest links of likeness to lower life. The development of our frames teaches us the same lesson of unity of type, and forces us to the conclusion that, man's body being thus of humble enough origin, it is not to his physical frame, but to his mental endowments, we must look for the marks of superiority over all other forms. It is not the body, in truth, but the mind which "makes the man."

CHRISTINE NILSSON ON EXPRESSION IN SINGING.—From the nature of the case, there must be a certain amount of tediousness or weariness in singing the same piece many times over. Yet a song which gives fitting expression to any genuine emotion of the human heart, which in any way arrives at that touch of nature that makes the whole world kin, is one of the most durable of all things in art or literature. And it must be remembered that each public rendering is an experience more or less peculiar to itself. Different audiences, different auspices, different stage companionship, different arrangements for sound and light and ventilation—above all, the ever-varying experiences of one's own private life, which may be vividly present to the singer, while hidden from the audience—all these things have their effect upon the performance. Sometimes a singer is able, for no apparently adequate reason, to outdo, in a marked degree, her efforts at other times. At the least unexpected event, especially if it be anything of the nature of a disappointment, she may become hoarse, and her vocal organs refuse to respond. It has been found absolutely impossible to train the voice sufficiently to enable it to overcome such causes of depression. Any measure of sadness immediately makes itself felt in the effort, and mars the execution.

TO RESTORE FADED INK.—In order to restore faded ink, all that is necessary, according to the *Boston Journal of Chemistry*, is to moisten the paper with water and brush over the writing with a solution of sulphide of ammonium. The ink will become black immediately from the formation of the black sulphide of iron. Of course, this means of restoration is not applicable with aniline inks.

CRAYON-FEU.—This name has been given by Dr. A. Moser, of Paris, to crayons which may be used as means for cauterising poisoned wounds, bites of rabid dogs, &c. It has a conical shape, and is composed of the following ingredients:—Charcoal, 30 parts; nitrate of potassium, 4 parts; iron, powdered, 5 parts; benzoin, 1 part; excipient (acacia, &c.), q.s. To be made into forty crayons.



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### SOME USEFUL HINTS ABOUT MEDICINES.

(FROM "NEW REMEDIES.")

**TARTAR EMETIC.**—Put one grain into one quart of water. Give of this, teaspoonful doses every half-hour, and it will relieve the wheezing and cough accompanying a slight bronchitis in children.

**NUX VOMICA.**—A drop of the tincture given every ten minutes, will often produce most marked relief in sick-headache not of nervous origin. It should be given immediately or soon after meals.

**CASTOR OIL.**—For the diarrhœa of children, accompanied with slight inflammation, straining, and the passage of jelly-looking matter, but not true dysentery, five drops of castor oil given every hour, with sugar and gum, is an excellent remedy.

**ACONITE.**—One-third to one-half minim, given every fifteen minutes, will lessen fever (when it is not the commencement of one of the continued fevers), when the skin is hot and dry, the pulse full and bounding, and the mucous membrane of the throat and nose dry. When so used, it will also arrest a "cold in the head," and is useful in cardiac hypertrophy with palpitation, severe headache, and disturbances of the nervous system, due to increased force of the heart beat.

**HAMAMELIS.**—Two minims, given every half-hour, will often control hæmorrhage. In spite of previous doubts, Professor Smith has been convinced of its beneficial effect in hæmorrhage from the nose, &c.

**BELLADONNA.**—Minim doses, given every half-hour, is a good remedy in cases of nasal catarrh and bronchitis, accompanied with free secretion. Owing to its tendency to cumulative effects, it should be suspended for a time after eight or ten doses have been so given.

**CHLORIDE OF AMMONIUM.**—Two grains, combined with ten or fifteen minims of the tincture of cubebs, given every half-hour, oftentimes controls acute throat and mouth inflammations, and superficial inflammations of other tissues about the throat. When the affection depends upon a gouty constitution, add to the above mixture ten minims of the ammoniated tincture of guaiacum, and administer every hour.

**CITRATE OF CAFFEINE.**—One grain, every half-hour, often produces most marked relief in migraine.

**GELSEMIUM.**—Three-minim doses of the tincture, every half-hour, will often relieve miraculously neuralgias about the face or head, and leave no ill effects.

**GUARANA.**—Fifteen-minim doses of the fluid extract, given every fifteen minutes, frequently relieve headaches, especially when they are periodical and not of malarial origin.

**CHLORATE OF POTASSIUM.**—Grain doses, given every half-hour, in scarlet fever, diphtheria, tonsillitis, &c., will produce the same results as larger doses, without the danger of the evil effects resulting from the accumulation of the drug in the system, as sometimes happens when it is administered in the ordinary way.

**BROMIDE OF SODIUM.**—A few grains, dissolved in a tumbler-full of water, so that each teaspoonful may represent a half-grain, will quickly quiet the nervous disturbance of teething infants, or fever not dependent upon the onset of an inflammation or other great trouble, but rather such as may follow excitement of any kind. The dose should be repeated every ten or fifteen minutes.

**CHAMOMILLA.**—A minim of the tincture given every

fifteen or twenty minutes is a better sedative than chloral hydrate for sleepless children, or those who are easily disturbed by noise or other causes. A simple way of administering it is to put a teaspoonful of the tincture in a glass half-full of water, and let the child drink it at its pleasure.

**IPECAC.**—A drop of the wine of ipecac, repeated every ten or fifteen minutes, will often relieve obstinate vomiting from different causes, and will sometimes also check diarrhœa. Given in this way in water, it does not nauseate.

**WOMAN AS AN INVENTOR.**—The smallest inventions sometimes prove the most lucrative. A San Francisco lady, inventor of a baby carriage, received 14,000 dols. for her patent. The paper pail, the invention of a Chicago lady, yields a large income. The gimlet-pointed screw, the idea of a little girl, has realised millions of dollars to its patentee. Among recent inventions of importance by women are a spinning-machine, capable of running from twelve to forty threads; a rotary loom, doing three times the work of an ordinary loom; a volcanic furnace for smelting ore; an improved wood-sawing machine; a space-saving clothes mangle; a chain elevator; screw-crank for steamships; a fire-escape; a device for correct pen-holding, invaluable in schools; a wool feeder and weigher, one of the most delicate machines ever invented, and of incalculable benefit to every woollen manufacturer; a self-fastening button; a portable reservoir for use in case of fires; a process for burning petroleum in place of wood and coal for steam generating purposes; an improvement in spark-arresters, to be applied to locomotives; a danger-signal for street-crossings on railways; a plan for heating cars without fire; a lubricating felt for subduing friction (the last five all bearing upon railroad travel); a rapid change box, a marvel of simplicity and convenience, invaluable at railway stations and ferries, the invention of a girl of sixteen; syllable type with adjustable cases and apparatus; machine for trimming pamphlets; writing-machine; signal rocket, used in the navy; deep-sea telescope; method of deadening sound on elevated railways; smoke-burner; satchel-bottom bags; bag-folding machine, &c. Many improvements in sewing-machines have been made by women; as a device for sewing sails and heavy cloth; quilting attachments; the magic ruffler; threading a machine when upon a full run (an idea scouted by male machinists); an adaptation of machines for sewing leather, &c. This last was the invention of a practical woman machinist, who for many years carried on a large harness manufactory in New York City. Systems for improved drainage; for better ventilation; for forcing water to great heights and distances; a thousand household appliances, &c., are the fruits of woman's inventive genius; but they must be passed by, as this paper is designed simply to attract public attention toward a subject upon which much ignorance and misapprehension exist.—*North American Review*.

**MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.**—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

IX.—HEALTH-RESORTS DESCRIBED (*Continued*).

**HAYLING ISLAND** (Sussex) is 71 miles from London. Population about 1,200. The air here is remarkably bracing, and the winters are mild. The situation is specially recommended as suitable for convalescents from most diseases, as well as for those suffering from nervous prostration and over-work. Hayling is about five miles from Portsmouth. The beach is sandy, and well adapted for bathing. The route is *via* Havant, by London, Brighton, and South Coast Railway. Hotels: Royal, West Town, &c. Return fares from London, 25s. 3d., 18s. 4d., and 11s. 4d.

**HELENSBURGH**, Dumbartonshire, on the Clyde, is situated almost opposite Greenock. Population over 6,000. It is readily reached by North British Railway from Glasgow, whence it is distant 24 miles. The climate is very mild, and well adapted for delicate chests. Bathing can be had. Hotels: Queen's, Imperial. The Shandon Hydropathic Establishment on the Gareloch is readily reached from Helensburgh.

**HERNE BAY**, Kent, is 63 miles from London. Population, about 1,600. This place lies between Margate and Whitstable, and is reached by London, Chatham, and Dover Railway. The air is very bracing, and resembles that of Margate and Ramsgate. It is adapted for scrofula, for weakly children, and for those whose nutritive powers can assimilate perfectly under the stimulus of the sea. Bathing good. Hotels: Brunswick, Marine Parade, Dolphin. Return fares from London, 22s. 6d., 16s., 9s. 6d.

**HOLYHEAD**, Anglesea, is distant 264 miles from London. Population about 9,000. The climate is of the bracing order; the high winds which occasionally prevail are not, on the whole, cold, and many persons find the later summer months very agreeable at Holyhead. Bathing can be had. The air is possibly a little dry for chest complaints, but is invigorating for those who require a tonic atmosphere. Hotels: London and North-Western Railway Hotel, Royal, George, &c. Return fares from London, 75s., 59s.

**HORNSEA**, Yorkshire, 230 miles from London, 16 miles from Hull, to which through carriages run by Great Northern Railway. Population about 2,000. The air here is bracing, but it is not too invigorating for invalids. Bathing plentiful. Hotels: Alexandra, New, Victoria.

**HUNSTANTON**, Norfolk, is 115 miles from London. Population about 1,000. The beach is good, and the air is of the bracing type, inclining occasionally to cold. Route, by Great Eastern, Midland, and Great Northern Railways. Hotels: Golden Horn, Sandringham, L'Estrange Arms, &c. Return fares from Liverpool-street, London, 30s. 8d., 24s. 8d., 18s. 1d.

**ILFRACOMBE**, Devon, 226 miles from London. Population about 6,000. Is reached by London and South-Western Railway direct, the journey occupying about six hours. This town has long been famous as a health-resort. Its climate has been described as "oceanic," seeing that it is surrounded on all sides save one by the sea. Rain here dries quickly, and the town is well sheltered from winds.

The breezes from the Bristol Channel are highly invigorating, but the chief characteristic of the town is its equable temperature. The summer here is cool, whilst the winter is warm; hence Ilfracombe is in high favour as a resort for tropical invalids. Snow and mists are rare. The shore is rocky, and bathing is difficult. Ilfracombe is more bracing than Dawlish, and still more invigorating than Torquay. Cases of general debility, nervousness, kidney affections, and dysentery, benefit from a stay here. Hotels: Ilfracombe, Royal Clarence, Britannia, Victoria, Queen's, &c. Return fares from London: 71s., 52s. 6d.

**ILKLEY**, Yorkshire, 211 miles from London. Population about 4,000. The town is situated on the Wharfe, and is famed for the Ilkley Water, which is used in practice at the Ilkley Wells and Ben Rhydding Hydropathic Establishments. Ilkley is noted for the purity of its mountain air, which suits many with whom the sea does not agree. Hotels: Lister Arms, Rose and Crown, &c. Return fares from St. Pancras, 55s. 6d., 33s. 4d.

**ISLE OF MAN** (see DOUGLAS, PEEL, RAMSEY, &c.).

**ISLE OF WIGHT**, situated off the south coast of Hampshire, is 22½ miles long by about 6½ miles in breadth, and 56 miles in circumference. Population about 70,000. The health characters of the Isle of Wight depend—firstly, on the quick absorption and disappearance of rain; secondly, on a comparatively equable atmosphere; and thirdly, upon the bracing nature in general of the climate. On the north side, Ryde and Cowes are situated. Here the air is mild and genial, but the bathing is not so good as might be desired. The atmosphere is not over dry, and these localities are, perhaps, best suited for those requiring rest and change for debility or overwork. The Undercliff is the name given to a great natural plateau, or terrace, the result of landslips, which has a high mountainous background on the north. Here winter and spring residents prefer to reside. The Undercliff extends for six miles along the south-east coast from Bonchurch to Black Gang Chine. Sir James Clark says of the Undercliff that it is "open on the south to the full influence of the sun, from his rising to his going down—during that season, at least, when his influence is most wanted in a northern climate." The rainfall is 23 inches; at Newport, in the centre of the island, it is 33 inches. From November to May the Undercliff is at its best; between August and October it is too moist and relaxing. The air is very dry during the season. The mean annual temperature is 51·35°; of spring, 49·66°; of summer, 60·63°; of autumn, 53·58°; and of winter, 41·89°. Ventnor is the principal town of the Undercliff. Here consumptives winter in great safety, and open-air exercise becomes possible for such patients at a time when they could not venture out of doors in England. Torquay is the only place which rivals Ventnor in this respect. The air is mild, and yet sufficiently bracing to exercise a tonic effect, Torquay being more moist and more relaxing. Affections of the lungs and air-passages, liver and kidney diseases, childish scrofula and debility at large, benefit greatly at Ventnor. Sandown is of a more bracing character. There is a fine beach, and bathing is good. Here many prefer to spend the autumn months, and many change from Ventnor to Sandown during the latter period of the year. Freshwater has a pebbly beach, and is also of bracing character. Shanklin, in Sandown Bay, has the bracing air of Sandown itself. The prevailing idea that Ventnor is very hot in summer ought to be corrected. The summer breezes keep the town cool, and the maximum reading of summer heat at Ventnor on an average of twenty-five years is 10° less than at Greenwich—a fact explained by the sheltered condition of the town.



**JERSEY** (see CHANNEL ISLANDS).

**KESWICK**, Cumberland, is 299 miles from London. Population about 3,000. The town is half a mile from Derwentwater. The air is typically mountainous, and is bracing and stimulating. Hotels: Keswick, Queen's, Royal Oak, King's Arms. Return fares from London: 82s. 2d., 63s. 8d., route from Euston.

**KINGSTOWN**, Ireland, 7 miles S.E. from Dublin; famous for sea-bathing; on the south shore of Dublin Bay. The air is extremely bracing and sharp. Invalids suffering from lung-diseases may benefit from a summer stay here, but should avoid this place in winter and early spring.

**KINSALE**, Cork, has a bracing air. Beach, sandy. Situated near the mouth of the river Bandon.

**LARGS**, Ayrshire, is reached by steamer from Glasgow, or *via* Wemyss Bay by rail. It lies on the coast, and possesses a fine view of the Cumbrae Island and Arran. The beach is pebbly, and bathing is plentiful. The air is clear and the climate mild, whilst it is sufficiently invigorating to present attractive features to the holiday-maker. Hotels: Brisbane Arms, White Hart.

### BOARD SCHOOL EXERCISES; PLAYGROUNDS AND GYMNASIA.

THE physical education of the children of the poor is, we see with the greatest satisfaction, receiving attention from the London School Board in a systematic and most useful manner. Great credit is due to Mr. North Buxton, the Chairman, for the encouragement which he affords to this most important branch of the work of the School Board; and the public entertainment at which he was honoured by the presence of the Prince and Princess of Wales, for the purpose of reviewing the drill classes of the students of the School Board, is an occasion on which not only the School Board itself, but the whole population of London, may be congratulated. It marks, we may hope, a new departure in education. The subject of the education of the body is lamentably neglected, especially among those who have charge of the children of the poor, male and female. The introduction by the School Board of the Swedish system of exercises, under the charge of Miss Bergman, promises well; at the display before the prince, the marching of the girls is reported excellent, and they were afterwards put through a series of movements of extension and flexion by which the muscles of the neck, spine, joints, and the various other parts of the body were brought into active and harmonious exercise; the lungs being also exercised by singing and counting. These exercises were all done in good time, by word of command. This display of physical training, it may earnestly be hoped, will spread from the London School Boards to other girls' schools throughout the country. There are unfortunately hardly any teachers in Great Britain capable of carrying out this system, and the School Board will have rendered an essential service if it can arrange a normal school for the training of teachers from which other board schools and private schools could be supplied. May we hope that this successful display of the results of physical education will inspire the Board with a somewhat more liberal policy in respect to fitting up gymnasia in their playgrounds for boys and girls? These playgrounds have been acquired at a cost of upwards of half-a-million; they are very little used, chiefly for the reason that they are not fitted with suitable gymnasia for the active training of the pupils, nor provided with instructors to show them how to use gymnastic apparatus, and how to play—a lesson which our town children sorely need. By the liberality of the Public Gardens and Playground Association, and the generosity

of its President, Lord Brabazon, a sum of £400 has been offered to the School Board for the construction of suitable gymnasia in one boys' and one girls' school. This sum the Board has accepted. We are glad that it has done so; but it must be felt that it is a reproach to a great public body, such as the London School Board, that it should need to be urged by private liberality, and wait for voluntary subscriptions, before supplying so necessary an adjunct to their magnificent system of schools. Mr. Ernest Hart, as Chairman of the National Health Society, has, during the last two or three years, been engaged in a correspondence with the Board on the subject of these playgrounds; and, as Vice-President of the Playgrounds Association, he has joined in this presentation of a gymnasium to the London School Board; but, in a further recent communication, on behalf of the National Health Society, he has taken opportunity to express the opinion, which will, we believe, be largely endorsed by public sentiment, that the provision of such gymnasia, within the precincts of the school grounds of board schools, lies directly within the province of every board school in the country; and that no School Board can be considered to have adequately done its duty to the children, whom the State compulsorily entrusts to its care, except by providing adequate means for the physical as well as mental education and recreation of the children in the board schools.—*British Medical Journal*.

**NEGLECTED CHILDREN.**—Now, the point to which I wish to call attention is, that the bulk of this human deposit of vice and poverty is *hereditary*; it has come down from the past centuries, and goes on little changed or ameliorated by the growing wealth and progress of the country. Though the average income of the middle class and respectable artisan class has more than doubled within this century, the lowest stratum is as foul and beggarly as in any period of our history. Perhaps its actual magnitude may not be quite so great as it once was; certainly its relative size is less, for the classes above the lowest have greatly increased. But the pressing question is, how to cleanse the Augean stable of this moral filth which underlies our modern civilisation. I repeat that most of the evil is hereditary; it is bequeathed from parent to child; the habits of the young are formed amid such parents; and the conclusion has been gradually forced upon me that we shall never break the hereditary entail of pauperism and crime in this country until we take *far more stringent means to save the children*.—*Samuel Smith, "Nineteenth Century."*

**INFUSION OF CHAMOMILE AS A REMEDY FOR INFANTILE DIARRHŒA.**—Dr. Christopher Elliott writes, in *The Practitioner* of December, 1882, that he now seldom employs any other remedy than the "homely" infusion of chamomile (*Anthemis nobilis*) in infantile diarrhœa. It is especially useful for the diarrhœa occurring during dentition, when the discharges are many in number, green or slimy, and streaked with blood. Pain or cramp especially indicate its use, and a few doses will quickly calm a fretful child. From half a drachm to one drachm of the infusion may be given to a child under one year of age, or double that quantity to a child over that age, and it may be repeated thrice or oftener daily according to the severity of the case.

**HAMPSTEAD.**—High and healthy position, near the Heath. STANFIELD HOUSE SCHOOL for sons of gentlemen. Home comforts; and the health of pupils carefully studied. Individual teaching. Principal: Mr. W. R. Marshall (several years' experience), assisted by eminent master. Prospectus on application.



## Scotings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**OVERWORK AND IRREGULARITY OF WORK.**—The conclusions we deduce from these facts are as follows:—"Overwork," properly so-called, is not so likely to occur, or if it occur to do mischief, as irregular or disorderly activity. If there be not sufficient time for recuperation in the course of work, exhaustion must take place. If the work done be of such a nature as to put an undue strain on any one faculty, harm may be done, although the brain as a whole may not be severely taxed. If the supply of brain-food be insufficient to enable the recuperative faculty to compensate by food for consumption in use, there must be exhaustion. If work be exacted when any indication of exhaustion is present, it is impossible that injury shall not be inflicted. It follows that educators have especial need of care to avoid engaging the brains of their pupils in work for more than very short periods, and to provide intervals during which there may be rest of the centres specially taxed. Much may be done by changing the kind of work frequently. We are of opinion that no growing child should be kept longer than half or at most three-quarters of an hour at one task, or even the same description of work. Again, the great centres of relation should not be overtaxed. Vision, hearing, the speech centre, and the centre specially concerned with written language, whether in writing or reading, should not be wearied. Brain weariness is the first indication of exhaustion. The faculty of "attention" is perhaps one of the most easily vulnerable of all the parts or properties of brain-function. It is the faculty which most readily becomes permanently enfeebled, and, when weakened, entails most trouble in adult life. In children it is difficult to catch and fix the attention. No effort should be spared to secure this fixity of thought; but in order to avoid weakening the power of "thinking" as distinguished from "thought-drifting," the teacher should not strive, or desire, to hold the attention by any effort on his part longer than it is voluntarily given by the child—the slightest indication of exhaustion should at once be met by a change of task. If these hints, general as they are, can be reduced to practice, we think there is little fear of "overwork" or harm from brain activity. Desultory and insufficient work is more to be feared by far than "overwork," because the brain, like every other part of the organism, grows as it feeds, and it can only feed as it works.—*Lancet.*

\* \* \*

**PRIZE RECIPE FOR SALAD.**—From six or eight coss (or cabbage) lettuces, remove outer or coarse leaves, and strip from remaining ones the good part. The pieces should be two and a half to three inches long, and may be broken up, but not cut; then wash them and let them remain about half-an-hour in water. Rinse in second water, place in napkin, and swing till dry. For dressing, take the yolks of two hard-boiled eggs, crush them to paste in bowl, adding half tablespoonful French vinegar, three mustard-spoons mustard, one salt-spoon salt, and beat up well together; then add, by degrees, six to eight tablespoonfuls of Lucca or Provençal oil, one of vinegar, and, when thoroughly mixed, a little tarragon finely chopped, a dessert-spoon

coarse white pepper, as pepper in powder irritates the palate. When all is well mixed, place the salad in it, and turn over and over, thoroughly and patiently, till there remains not one drop of liquid at bottom of bowl. Put the white of the eggs in slices on the top, and serve shortly after it is mixed.—*Truth.*

\* \* \*

**HOW WE NOD OUR HEADS.**—The top joint of the thirty-three which make up the spine, and of which seven are allotted to the neck, is little more than a simple ring of bone, on which, of course, the head rests. On its upper surface are two little oval cups, into which two smooth, convex and correspondingly oval prominences on the under part of the hinder bone of the head—or *occiput*—fit accurately, in such a way as to allow of what are called the nodding movements; by which is meant, not merely the slight bob we bestow on a passing acquaintance or in lazy token of acquiescence, but all that which is comprised in the motions of the head when we gaze at a star in the zenith of the heavens, or contemplate the topmost button of our waistcoat—what a sailor would call the "fore-and-aft" movement, but which anatomists designate the "anterior-posterior." In the course of this flexion, as we can easily satisfy ourselves by experiment is the case, any given spot on the face or scalp describes a considerable portion of a semicircle, proving how perfectly the convex and concave surfaces are adapted together. But for all that, this first vertebra (the *atlas*) is so joined to the occiput, that its membranes and bony projections permit of no lateral movement whatever. Attempt any rotation or twisting, and it becomes a fixture at once. It admits of the nod, which signifies "yes;" how, then, are we to shake the head in mute purport of "no?" Vertebra number two—known as the *axis*, there being obvious reason in both names, which is more than can be said for all we meet with in the nomenclature of the human frame—has a protuberance sticking up from it, which is called the odontoid process, from its vague resemblance to a tooth, and which rests against the inner side of the ring of the atlas at its front part, while the spinal cord passes down behind it. On this the head works as on a pivot, the process or projection being retained in its position during the nodding action by a strong fibrous band, which passes across the atlas—the transverse ligament. The relation of these two vertebrae to one another, and the subject which arises out of their displacement, may be illustrated in the following manner:—Join the thumb and forefinger of the right hand together, so that they form a ring. This we will take to represent the atlas, and a piece of thread tied across it, around the nuckle nearest the nail of each, will do for the transverse ligament. Now, elevating the thumb of the left hand, and applying the left forefinger to its base, join the two hands in such a way that the first ring lies on the second, and the back of the left thumb rests against the junction of the right forefinger and thumb on their inner surface, restrained in that attitude by the thread. If the thread be now broken, the left thumb—our counterfeit presentment of the odontoid process—will fall back across the circle, and manifestly compress whatever might be within it. And this is exactly what occurs in the mechanism of a broken neck. Whether the head falls forward or (as we have roughly exemplified it) the lower bones go back, the result is the same; the upper part of the spinal cord, any injury to which is instantaneously fatal, is pressed upon by this odontoid protuberance. On the integrity of this transverse filament depends our life.—*Dr. Arthur Stradling in "Time."*



## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Tapeworms: their Sources, Varieties, and Treatment*, with 180 cases. By T. Spencer Cobbold, M.D., F.R.S. Fourth Edition. (London: Longmans, Green, & Co.) 1883.

DR. COBBOLD stands out very prominently amongst English men of science as our foremost authority on "Parasites" of all kinds. His labours in this apparently uninviting, but in reality all-important field of scientific work are well known, and have laid a solid foundation for many details of medical practice in dealing with parasitic affections. In the present volume, Dr. Cobbold directs attention to what are, perhaps, the most common "guests" harboured by human "hosts"—namely, tapeworms. Man obtains the young of these parasites from underdone pork, beef, and mutton; and although they do not, as a rule, produce a fatal result, the presence of these animals in the digestive system is a frequent source of ill-health, weakness, and debility. It is a noteworthy fact that the treatment of many cases of tapeworm is by no means satisfactorily carried out. We have met with many cases in which, after treatment, and after a period of apparent relief, the parasite has grown to its original dimensions, and has again appeared in all its vigour and activity of growth. Such cases are extremely annoying to the patient, and they do not reflect credit on the practitioner. Dr. Cobbold emphasises very strongly in this book the details necessary for successful treatment of those pests. He tells us that man is liable to act as "host" to some thirteen different kinds of tapeworms, and that men are more frequently affected than women—a result which our author thinks may be due to the "more cautious and fastidious habits of the female sex." Male fern is Dr. Cobbold's favourite remedy. He used it in fifty-two particular cases, and in thirty-nine of those cases, it was the only drug employed. Our author lays great stress on the absolute necessity for securing the *head* of the worm. As every naturalist knows, it is the minute head and neck which possess the power of budding off new joints. Hence, even if the worm has been expelled in yards, and if the cure has been regarded as complete, the head and neck are capable, if left attached to the bowel, of producing a new growth of worm. The secret of successful tape-worm treatment thus consists in the removal of the head. Dr. Cobbold tells us that the male fern may be given every other day for weeks without bringing away the head, and he remarks the folly of medical men being content to know that yards of the worm have been expelled, without assuring themselves that the head has also been detached. The administration of aperients before and after the male fern is given, and the placing of the patient on a fluid dietary before the fern is employed, are points which are often overlooked in the ordinary treatment of tapeworm, but which are highly necessary for success. As a final sample of the extraordinary means which may be resorted to for the cure of tapeworm, we may quote Dr. Cobbold's account of his concluding case. A little girl 11 years of age, was the patient. When Dr. Cobbold was consulted, unsuccessful treatment had been practised for two years. "Oil of male fern, koussou, and galvanism (!) had all been tried, but 'they were of no use.' Being of very delicate constitution, I employed the male fern extract in the form of capsules. This treatment, followed by the usual aperient medicines,

removed a very large beef-tapeworm, but the head was not dislodged. I did not push the treatment further at the time, expecting to renew it, if necessary. At the persuasion of her mother's friends, however, she was subsequently placed under the care of a notorious female tapeworm curer, who, it was alleged, succeeded in curing the child. But no real cure followed this 'old woman's' treatment, for in about nine weeks the parasite returned. The strange thing is, that the patient's mother was shown the alleged *head* of the worm, which is now in my possession. It is the head of a tapeworm, no doubt. Another patient, who came under my care after he had been treated by the same 'quack,' was also shown the *head* of the worm, but it returned nevertheless. The explanation of these supposed cures is not difficult to seek, but I prefer to leave my medical brethren to draw their own inferences. The parent of this little girl has since stated to me that by taking this step she has experienced a 'bitter disappointment.' Perhaps some measure of her distress is not undeserved, seeing that I had previously received a letter from her, announcing in triumphant terms the final cure of her daughter. In reply I wrote, expressing my unfeigned gratification at her daughter's relief, at the same time cautioning her not to be too sure that the parasite would not return. The parasite returned."

Such a case shows the necessity for extreme care being exercised in the treatment of these cases, which present a field of operation for quacks, who are evidently not deterred from imposing the head of a worm on their patients as evidence of a cure.

*The Family Physician. A Manual of Domestic Medicine.* By Physicians and Surgeons of the Principal London Hospitals. New and Enlarged Edition. (London: Cassell & Co.)

THE demand which has induced the publishers of this large and handsome volume to issue a new edition is an encouraging sign of the times from a health-reformer's point of view. The conservation of the individual and family health, is really the fulcrum upon which national health is supported. If people will teach themselves, or be taught, to preserve, by every means at command, the family health, there will be less need for governments to act *in loco parentis*, and to scold or drill nations into observations of health-laws. That the people, however, must be assisted to such knowledge is, of course, a primary condition for the growth of health-reform. Works like that before us certainly aid this latter cause in a powerful degree. They, firstly, supply sound and reliable information regarding health and disease; then, secondly, they induce thought over matters of health-reform; whilst they also stimulate the faculty of self-reliance, which, in many experiences, is of the highest value, and may enable those possessing this faculty to relieve pain or to save life itself.

No better book than "The Family Physician" can be recommended to the notice of the public. The days when Graham and Buchan wrote their "Family Medicines" have been followed by times wherein medicine and surgery have together progressed with rapid strides, and wherein immense advances in our knowledge of both the causes and cure of disease have been made. It is of the highest importance that a family guide to medicine should be fully up to the times in all details, and Messrs. Cassell's volume, we can safely say, realises our anticipations in this respect. It would be obviously impossible, in the limited space at our command, to direct attention to the many



features of value comprised in this volume. A useful "Introduction" deals with the nature of disease at large, and supplies much information regarding the general principles on which diseases are treated. The section on "Diseases of Children" is, we are glad to see, very prominently treated. The "Family Physician" is certain to be frequently consulted in this department of practice. The list of general diseases is long, and alphabetically treated; and from a careful perusal of the more prominent of the articles, we are able to say that the matter is most excellent, the style clean, and the directions for treatment explicit. Following the descriptions of diseases, a list of "prescriptions" is given, and sections on "Nursing," "Indications of Disease," and "Domestic Surgery" follow; whilst the "Materia Medica" section is also very complete. "Skin Diseases," "General Hygiene," "Bone-Setting," and a "Table of Doses" form the concluding portions of the book. A copious index—a feature of high value in such a work—is also given. Additional illustrations would have perhaps enhanced the book, but as a volume, adapted for consultation by the intelligent lay mind, this book cannot be excelled.

## Sanitary Appliances, Etc.

"STRAWFENA" PATENT CIGARETTES.—The recent discussion respecting "cigarette smoking" has, at least, had one advantage—namely, that of eliciting the fact that safe and enjoyable cigarettes are manufactured, and are procurable when demanded, of any tobacconist. The cigarettes to which we refer are those of Messrs. Robinson and Barnsdale, of Nottingham. After a careful examination of the "Strawfena" cigarettes manufactured by this firm, we are in a position to say that the requirements of a safe "smoke" are thoroughly illustrated in their manufacture. A beautifully neat straw mouthpiece is fitted into each cigarette, and in front of this, and next the tobacco, is an absorbent plug. The smoke is inhaled through minute apertures in the plug, and all risk of nicotine-poisoning is thus abolished. To those who enjoy a cigarette, and who may be, nevertheless, afraid of evil results from their use, we cordially recommend the "Strawfena" make of Messrs. Robinson & Barnsdale. The tobacco used in their manufacture, it is almost needless to add, is of first-class quality.

VAN ABBOTT'S SPECIALITIES.—Mr. Van Abbott, of 5, Princes-street, Cavendish-square, London, W., has acquired a high and deserved reputation as a purveyor of many articles of great value in the treatment of disease, and in the maintenance of health. Amongst these articles "Murdock's Liquid Food" may be specially mentioned. This extract has attained a high reputation in America, and from a knowledge of its use in the wasting diseases, especially of children, we are prepared to say that it has hardly an equal in respect of its speedy digestion and strength. In general debility, this food is of high value, and those who have cases of wasting disease under their care should give this food a trial. We have also been specially pleased with the "Hypophosphite of Lime Biscuits" of Mr. Van Abbott. They are crisp and tasty, and eagerly eaten by children; and as each biscuit contains five grains of the hypophosphite, their utility in the treatment of rickets and other bone diseases in children is very great. Van Abbott's "Gluten Biscuits" are also highly useful in cases of diabetes, debility, and obesity; and we are glad to see that, profiting by his large experience, Mr. Van Abbott has prepared full dietary tables for diabetic patients. We should strongly recommend those who are in search of the remedies for diabetes, ordered by their medical men, to pay Mr. Van Abbott's establishment a visit. Everything which a ripe experience can suggest besides, in the way of special foods, condiments, &c., will be found ready at hand, and of guaranteed quality.

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTERS TO THE EDITOR.

### HEALTH AND SCHOOL.

SIR,—In these days of competitive examinations suitable only to the Chinese, how can schoolmasters be made to conduct their schools rationally? Surely six hours a day is long enough for any growing boy to use his brain; but how many schools exist that have this as their maximum? Heaps of subjects are at hand to be utilised as means of education, both of body and mind, during the other hours of the day. Boy nature naturally rebels against too long confinement in school, and still, all over the country, schools can be found where book-work is forced and crammed into young boys—cricket, football, fives, not to speak of music, painting, and many other exercises, being regarded by the schoolmaster as more or less humbug. Then, again, as to dress, fresh air, constant intervals during work in school, how many schoolmasters are there in the country, or parents either, who bother their heads about such things? Your valuable paper, I trust, will not let a few only have the monopoly of common sense.—Yours truly,

E. F. T. BENNETT.

### THE VALUE OF CARBOLIC ACID AS A DISINFECTANT.

SIR,—Permit us to reply to your comments on our letter in your paper of the 22nd ult. Delay has occurred through difficulty of obtaining Dr. Duncan's report alluded to by you.

His experiments seem to us to have no special bearing on our statement, their real object being to prove that the germicidal properties of carbolic acid (which he fully admits) are improperly utilised in the state of spray. The spray solutions he believes to be ineffective to destroy germs floating in the air, and we have not ventured an opinion on that point, as it is not a plan of "disinfection of air" advised by us. We advocate the use of heated carbolic vapour for aerial disinfection (see circular), and Dr. Duncan distinctly states that carbolic acid is germicide at the temperature of the body.

You assume that if carbolic acid does not destroy the spores, it is vastly inferior to any substance or process which will kill them. This may be admitted, but as the spores have been found to resist prolonged boiling, and so high a temperature as 137 deg. C., whilst the same temperature, "in presence of carbolic acid vapour," killed the spores (see Herr von Than's report in the "Annalen des Chimie") we may fairly claim that carbolic vapour is the most effective destroyer of germs in the air which has yet been discovered.

Dr. Baxter's experiments are not quite conclusive, as he compared carbolic acid, used in its normal state, with other disinfectants—sulphurous and nitrous acids and chlorine—that are exceedingly volatile under ordinary conditions.

Despite this fact, his experiments demonstrate that carbolic acid, not volatilised by heat, did give off sufficient vapour to actually kill the infective matter of vaccine virus, requiring only the longer period needed, because of its slower diffusive properties, as compared with the gaseous disinfectants employed in the same series of experiments.

We may here observe that as carbolic vapour does not injure fabrics, metals, or gildings, it may safely and effectively be used where sulphurous and nitrous acids or chlorine could not be employed. This fact tells greatly in its favour, and the numerous cases reported of the efficacy of carbolic vapour in curing lung ailments and various throat affections have established beyond question its germicidal and antiseptic properties.



You say that "spores of bacilli are infinitely more dangerous than the adult bacilli." We fail to see how this remark can be verified, because the spores do not propagate disease till they are developed into adult or active bacilli. On this question Dr. Cameron, in his pamphlet on microbes, says, "While they remain simple spores they resist prolonged boiling, but allow them to germinate and deal with each successive crop as it springs into life, and your victory is of the easiest."

In the same way we can easily see how any solution which will kill the developed microbe can preserve the decoction or wound in which it is placed from the development of microbes; it may not kill the refractory germs (*i.e.*, spores), but it will kill them off in detail as they spring into life. This point has a most evident bearing on the rationale of disinfection of articles containing the germs (or spores) of the microbes of disease.

Dr. Stone, in your paper of June 29, points out that, according to Professor Koch, sulphurous acid failed to kill spores, and that in a room at ordinary temperature even bacilli and microcci were little, if at all, injured by it.

In Professor Koch's second paper on the subject, he stated that "carbolic acid vapour, at a temperature of 55° C., will in half an hour destroy spores of bacilli, and complete their destruction in five or six hours."

Regarding the direct effect of small percentages of carbolic acid on putrescible matter, we take it for granted that if they prevent decomposition (as you admit), they unquestionably *disinfect* the matter operated on, because it ceases to act as a pabulum in which the disease germ or spore can find nutrition as it springs into life.

We do not consider that further experiments are "necessary" to decide whether or no carbolic acid is a disinfectant, seeing that for nearly twenty years it has engaged the attention of the leading medical and scientific men, and the great majority of them are agreed on the question of its merits, which can readily be verified by practical and careful tests.—Yours truly,

F. C. CALVERT & Co.

[With all deference to Messrs. Calvert, the question of the value of carbolic acid as a disinfectant is hardly so simple as they appear to think. Carbolic acid may kill germs "at the temperature of the body," but, so far as we can see, in their plan of vaporizing the acid there is no guarantee that the vapour is, or can be, kept at the bodily temperature for any length of time. Again, Messrs. Calvert hardly seem to realise the nature of the argument connected with the destruction of the spores of bacilli—a feat which carbolic acid appears unable to accomplish. The severity of splenic fever produced by inoculating an animal with the adult bacillus is as nothing compared with the terribly rapid and fatal nature of the malady when it is infected with the spores, even dried and desiccated for lengthened periods. (See Tyndall's "Floating Matter in the Air," pp. 268, 269.) Any disinfectant, therefore, which can only kill the adult bacilli, without killing the spores, leaves untouched the source of the most fatal form of the disease. It is but a poor boast to say of any substance that, whilst at 55 deg. Cent. it will destroy "spores" in half an hour, it will take five or six hours to "complete" their destruction. In the face of Messrs. Calverts' own words, we seem to be merely playing here with the expression "destroy." It seems clear that for the destruction of spores in half an hour by carbolic acid we should rather read "render them inert," and this is exactly what we contend to be the great danger of carbolic acid as at present used. If substances are only rendered inert through carbolic acid disinfection, and are liable thus to awaken thereafter into all their pristine vigour and disease-producing power, there is incurred the serious mischance of future evil. Dr. Dougall's experiment (alluded to in our previous remarks), wherein vaccine matter mixed with 1 in 50 carbolic acid, regained its infective power after ten days' exposure to the air is a pregnant experimental fact which Messrs. Calvert will do well to bear in mind. Again, the prevention of decomposition is not equivalent to the destruction of the germs which cause putrefactive processes. Messrs. Calvert will find it a difficult matter to obtain authority to support them in their contention that merely to prevent decomposition is to "disinfect" thoroughly and permanently, the decomposable material. Such material awakens up afterwards with a newness of life, when the effect of the antiseptic has passed away, and may be as virulent in its nature as if carbolic acid had never been applied. Dr. Dougall's vaccine matter was arrested in decomposition by carbolic acid, but it was evidently not "disinfected" in the sense we should wish disease matter to be destroyed, and awoke thereafter, under the simple influence of atmospheric air, to all its former vigour. Dr. Baxter's words that "antiseptic is not synonymous with disinfectant power," should be borne in mind by Messrs. Calvert, and all interested in this important topic. Again, Dr. Baxter says:—"Aerial disinfection, as commonly practised in the sick-room, is either useless or positively objectionable, owing to the false sense of security it is

calculated to produce;" and he adds—as we already quoted—that "the use of carbolic vapour should be abandoned owing to the relative feebleness and uncertainty of its action." When we remember that Dr. Baxter's experiments were undertaken at the instance of Government, that they were conducted with scrupulous care and exactitude, and that Dr. Duncan's recent views regarding carbolic spray are decidedly on the side of Dr. Baxter's opinions, we opine that Messrs. Calvert will find it a somewhat difficult task to procure evidence of satisfactory kind in refutation thereof. We contend there is a crying need for a complete investigation into the action of disinfectants at large; and we also maintain that the reputation of carbolic acid is not above suspicion—at least, as that substance is commonly used as a disinfectant.—Ed. H.]

## QUERIES AND ANSWERS.

### GENERAL.

C. O. ALTHORPE.—See any manual of physiology.

B. GUNN.—Not at present.

A. O.—In about three years or so.

G. ORTON.—About a pint.

HEALTH RESORTS.—1. A correspondent begs to recommend to Broadstairs' visitors the "Balmoral Hotel" there. He says the sea-view is excellent, charges moderate, and house clean and comfortable. We are glad to place this information before our readers. 2. Shap Spa, in Westmoreland, is also recommended by a correspondent, who sends us a guide to the locality. We shall notice Shap in due course in our "Holiday Resorts." Meanwhile, we are glad to note the efficacy of Shap waters in cases of rheumatic gout, and similar troubles. The air is pure and bracing. Shap station is situated on the London and North-Western Railway, and Shap Spa is six miles from Tebay Junction. For liver troubles, &c., the waters are highly commended, and also in all cases where no active inflammation is present.

### SANITARY.

C. B.—Try the second trap mentioned.

A. S.—Yes; about 2½ feet from the ground.

CLIMATE.—The Devonshire coast for preference. Hastings might also prove suitable, but possibly Torquay would be preferable.

S. B. W.—Mr. Banner has a small book, we believe, on his system of ventilating sewers. Write to him at 11, Billiter-square, London, E.C. Consult also "Healthy Dwellings," by Douglas Galton (Clarendon Press), and "Practical Hygiene," by Dr. Parkes. Sixth edition. (Churchill.)

### MEDICAL.

T. BENSON.—Chronic catarrh is a very troublesome affection. We think you would benefit most from a sea voyage to the south. That frequently cures when other means fail. Have you tried inhalation of steam—from 30 to 40 drops tincture of iodine placed in two pints of boiling water, and inhaled for five minutes night and morning? Turkish baths will do no harm, but there is always a certain risk of cold thereafter. You should also have nourishing food and tonics; but the sea voyage is, in our opinion, the most reliable remedy.

CONSTANT READER will please use a more distinctive name in future. You suffer probably from some injury to the drum of the ear. Consult a surgeon at one of the ear hospitals. Such a case requires examination of the ear.

PREVENTION.—See remarks in HEALTH, No. 11, page 168, on precautions used by medical men in visiting fever cases.

E. T.—T.—We have never heard of the person or book you name. Send us the volume, if you have it. His name is not in the recent Register.

BON AMI.—Your case is a very common one, but you suffer from no disease. Sleep on a hard mattress, avoid taking fluids just before going to bed, take moderate open-air exercise, and, if requiring a tonic, take a teaspoonful of Fellows' "Syrup of Hypophosphites" in water thrice daily before meals. Do not let any one persuade you that you are ill, and avoid quacks.

AN ORGANIST.—Lime-juice is regarded by many as anti-scorbutic in its nature. (What do you mean by "Syrosis"?) Send fuller details of your case.

CANTON (Cardiff).—See advice to "Bon Ami" above. Don't run the gamut of quack preparations, which cannot possibly do you good, but probably harm. A sponge-bath in the morning, with moderate open-air exercise, should do you good.

HOPEFUL.—See advice to "Canton" and "Bon Ami" above.

W. E. M.—We should strongly advise you to have your boy ex-



amined thoroughly by a skilled physician in either Glasgow or Edinburgh. Take him to one of the infirmaries in either city. Only such an examination can satisfy you, and do justice to your son's case.

T. E. G.—Try the effect of a lotion of glycerine, 1 ounce; water, 3 ounces; and sulphate of zinc, 20 grains, applied to the affected parts. Write again, if not improved.

D. F. K.—Your trade possibly is against your health somewhat. 1. Rest after eating. 2. For the side pain, try rest from work for a time, and rubbing the affected part with warm oil. 3. For the "spit," try a gargle of sulphurous (not sulphuric) acid, 1 part to 20 of water. 4. Use an injection of salt and water, and eat plenty of salt with your food.

DEVONIENSIS.—Thanks for your clear statement. See a paper on "Hay Fever" in the present number of HEALTH. The "Ozone paper" is a good remedy in its way. For the asthma, have you tried inland air? It is a feature of this disease that individual peculiarities are strongly marked in the matter of a suitable air. Be very careful in diet, as the stomach often irritates the lungs. Diet, light and nutritious. The following has been highly recommended in asthma: Tincture of lobelia, 2 drachms; spirit of chloroform, 3 drachms; tincture of conium, 3 drachms; mixture amygdalæ to make a six-ounce mixture. A tablespoonful thrice daily.

L. F.—We strongly suspect there must be some constitutional cause for the hair-falling—failing any parasitic disease of the hair. Write, describing symptoms more fully. Our "Hair" papers should have aided you.

JOHN LINCOLN.—1. By "stimulants to be given up," we meant all intoxicating liquors; and tea and coffee in moderation only. 2. By "fluid," we mean any liquid whatever. 3. The length of country stay can be regulated only by the improvement in your affection. 4. No; moderate study would do no harm. 5. Avoid evening exercise, with any tendency to chill after exertion. 6. Cannot say anything about future of your complaint. 7. Consult a physician if unimproved. 8. Diet, as ordered.

OMNIA BONA BONIS.—Send us any quack pamphlets you may have by you; and see advice to "Bon Ami" and "Canton" above.

N. OF SOUTHSEA.—You possibly suffer from obstruction of one of your salivary ducts through which the saliva is poured into the mouth. If troubled again, a surgeon can readily cure you by a simple operation.

W. J.—The disease you name requires careful watching by a physician, and a careful course of diet. Write to Van Abbott, 5, Princes-street, Cavendish-square, London, W., for dietary tables. You will find therein full details and prices of foods adapted to answer your inquiry.

BOOKSTALL.—We do not think that you would in any way suffer from a return to the phosphorus and iron. In fact, tonics of that nature are often given in the later stages of the affection you name. Write again if unimproved.

ANN BARNARD.—We sympathise very deeply with you in your troubles. Change of scene and cheerful surroundings are prescribed in such cases; but we should advise you, considering all the circumstances, to consult a specialist in nervous diseases. These cases are very difficult to cure; but only a physician accustomed to see patients so afflicted can advise you. We shall be glad to be of any further assistance to you in any way.

ECZEMA.—The case you describe is certainly one either for a hospital or the attendance of a surgeon. Where there evidently exists long-standing leg disease you should have the patient treated at once. Constant medical attention will be necessary in the case.

KIRKDALE, 36.—See advice to "Bon Ami" and "Canton" above. By regular living and careful treatment of yourself, moderate exercise, &c., you need not fear to take the step you mention.

AYRSHIRE.—We fancy you are just a little over-anxious about yourself. Our advice is, try the effects of a thorough change. Go south, either to the sea, or try a mountain air. Take small doses of "Æsculap" mineral water as a mild aperient. You possibly also require a tonic. Try Fellows' "Syrup of the Hypophosphites," as ordered to "Bon Ami" in present number. Live generously, but avoid stimulants. A thorough change of air we regard as the strong point in treatment.

E. M. DUFF.—The case is a puzzling one, and the medical opinions express what will be commonly said about it. Have you tried a change of scene? Very frequently the mental habit and health are best stimulated by physical means of this kind. New associations and surroundings may do much good. Try this plan, and attend to general health. Glad to aid you again in any way we can.

J. G. W.—Symptoms those of disordered digestion chiefly. Take doses of "Æsculap" water as an aperient when affected; and gargle with sulphurous (not sulphuric) acid and water, one part to six of water. If not improved, we should advise you to have the throat painted with nitrate of silver by a surgeon.

GORDON.—[We cannot undertake to send you HEALTH. In event of any difficulty (which should not exist) in procuring it, address the publishers, or send subscription to the office.] 1. No; we have never heard of the person you name. 2. We know nothing of his remedy. Please send us any particulars you have regarding the association you speak of. Try (1) improving the general health with cod-liver oil and iron; (2) syringe the nose with Condy's Fluid and water.

NEMO (Bradford).—You seem to be generally out of sorts. We should recommend:—1. A change to the seaside, if possible. 2. Alteration of diet: take little *solid* food for a time, and subsist on soups, &c. 3. Small doses of "Æsculap" water occasionally. 4. Moderate exercise in open air.

BRIXTONIAN.—The eye troubles may be relieved, possibly, by the adjustment of proper spectacles. Visit Mr. Browning, of 64, Strand, who will at once determine this. The general health wants special attention, evidently. Try the effect of a week at the sea; if this is not possible, have as much open air exercise (a gentle kind) as possible, and substitute good claret for the beer, with less tea. If the eyes are not relieved by the spectacles, consult an oculist.

DESPONDING.—See replies to "Bon Ami" and "Canton" above. Write again if unimproved. Keep your mind easy, and avoid quacks.

ANXIETY.—A difficult case. The medical advice was quite right. There was some spinal weakness, for which lying on the back would have been a cure, but the doctor's orders do not seem to have been attended to. Take the child to any Orthopædic Hospital (e.g. in Oxford-street), or consult a good surgeon, who will advise if the case is one in which any amelioration is possible. We fear there will be permanent deformity.

L. E.—Thanks for your letter and enclosed pamphlet. We trust the remedies recommended will do you good.

SEA-SALT.—Very good, we think, as an addition to the morning sponge bath. Made from sea-water, we believe. Common salt might serve where the natural salts are not obtainable.

J. W.—See advice to "Bon Ami" and "Canton" above.

ERA.—We should advise in your case attention to diet. Eat more fruits and vegetables, and try doses of "Æsculap" mineral water, which will, probably, relieve all your symptoms.

WORKING-MAN.—See advice to "Bon Ami" and "Canton" above. We recommend you to take moderate exercise; to sleep on a hard mattress; to avoid taking any fluids before sleep, and to try the tonic above recommended. A cold sponge bath in the morning would also do good. Don't be persuaded that you suffer from any disease, and steer clear of quacks and quack medicines.

THISTLEDOWN.—The hair-symptoms, we are strongly of opinion, are hereditary and constitutional in your case. If so, nothing will probably avert greyness. We should recommend you to try Rowland's Macassar Oil as a dressing with restorative properties.

P. ASHLEY.—Yes, certainly; Margate should brace you up admirably. Sea-bathing will do you no harm; but we should not advise horse-exercise. Try a little Fellows' "Syrup of the Hypophosphites" as a tonic, a teaspoonful thrice daily in water before meals.

BATTERSEA PATER.—There is evidently some constitutional disease of a glandular nature. If the boy, as you say, is now stronger, why not try what a stay by the sea will do? In such troubles, sea air has often a wonderful effect, and we should advise him, in addition, to have cod-liver oil with iron. The abscesses will possibly heal best under constitutional treatment such as that recommended. We do not know of any more excellent advice than that you obtained.

H. COTTON.—"Cheloid" (not "Keloid") growths, are skin-tumours, which represent excessive growth of the connective tissue of the under-skin. Such growths are usually slow in coming, and often remain stationary, and itching or smarting are usually the only symptoms. The best treatment is to cover the growths with an iodine plaster or with mercurial or lead plaster. Sir Erasmus Wilson paints the growth with a spirituous solution of soap and iodide of potass, and then covers it with a wash-leather plaster. The application is repeated as often as the plaster becomes loosened.

J. J. J.—See notice to "Bon Ami" and "Working Man" above.

H. V. T.—Your symptoms will disappear in time if you are careful of your general health. Pulvermacher's belts can be had at 194, Regent-street, London, W. Try the effect of a week or two at the sea and hot salt baths. Your troubles seem as much mental as physical.

J. HEWATT.—You have probably weakened your knee somewhat. Rest will be your chief cure. Try alternate hot and cold douches, dashed on the knee twice a day for a few minutes. If the pain and weakness continue, consult a surgeon.

CURIOS.—1. Try simple vaseline at night as an application to the eyelids. 2. Difficult to advise in the matter of the bath. The



only thing we could advise you to do is to boil the water. This will remove some of the hardness, but will not affect that due to certain minerals.

**CALEDONIA.**—The troubles are possibly due to the particular age of the patient. For the rheumatic pains hot salt-water baths will be found useful. Care in diet, with a little good claret at meals, should prove beneficial. Try also 15 grains bromide of potass in water at night occasionally for the sleeplessness.

**J. L. B.**—Yes; provided care is exercised by the person who syringes the ears. No roughness is necessary; but care in sending a steady stream into the ear.

**STULTUS.**—No such name on the *Medical Register*. From what we have seen of this person's advertisement, no doubt remains that he is a quack. We shall be obliged if you will forward any pamphlets or books you have of his, and for an exact description of your case, how you were treated, and the cost of treatment. As you value your health (and purse) never go near the place again. See advice to "Working Man" and "Bon Ami."

**PORTABELLO.**—The quantity of carbonic acid given off by flowers at night is very small, and not calculated to injure persons sleeping in a well ventilated room. We shall shortly have an article on "Plants in Bedrooms."

**R. GLOVER** (Birmingham).—(We cannot make out your name clearly.) What do you mean by "a discharge from your head"? Write more specifically. If from the nose, inject Condy's Fluid and water.

**E. ANDREWS.**—We should advise you strongly to try the effects of doses of quinine and iron, as you say the attacks are become periodic in character. Try this as a tonic, and for the throat, gargle with tannic acid or have it painted with caustic. In such a case, a change to the sea or to mountain air is likely to do good. See to the sanitary condition of your house, which, if low-lying or wet, is likely to be the cause of the troubles.

## SCOTLAND

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		a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	
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Edinburgh	arr.	4 30	5 50	7 50	9 45	6 45	6 45	7 50
Glasgow	...	4 45	6 0	8 0	10 0	6 40	6 55	8 0
Greenock	...	5 52	7 15	9 5	11 42	7 50	7 50	9 46
Oban	...	9 43	—	—	4 35	12 15	12 15	2 34
Perth	...	6 50	—	9 35	11 40	8 5	8 15	9 55
Dundee	...	7 30	—	10 30	12 50	9 0	9 0	12 0
Aberdeen	...	10 10	—	—	3 20	11 40	—	2 15
Inverness	...	—	—	—	8 0	1 30	—	6 25

THE HIGHLAND EXPRESS (8.0 p.m.) will leave Euston every night (Saturdays excepted), and be due at Greenock in time to enable passengers to join the steamers to the Western Coast of Scotland. It will also arrive at Perth in time to enable passengers to breakfast there before proceeding northwards. From the 16th July to the 10th August (Saturdays and Sundays excepted) an additional express train will leave Euston Station at 7.30 p.m. for Edinburgh, Glasgow, and all parts of Scotland. This train will convey special parties, horses, and carriages.

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B Does not run beyond Edinburgh and Glasgow on Sunday mornings.

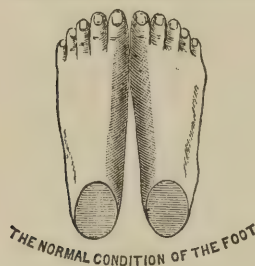
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July, 1883.

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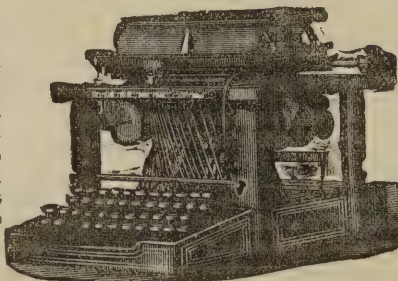
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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, AUGUST 3, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE "examination mania," on which we recently commented, forms the subject of an interesting paper in the *Gentlemen's Magazine* for August by our contributor, Mr. Mattieu Williams. Speaking of the "cramming" system, Mr. Williams denounces, with a heartiness that is refreshing to read, the common practice of setting tasks to children for home-preparation, and of hearing the said tasks in school. That this is not "teaching," in the true sense of the word, goes without saying. We can heartily endorse all Mr. Williams says regarding the advantages of a "lecture lesson," wherein children are taught the facts the teacher desires to impart by full explanation, and wherein they are stimulated pleasantly by questions put with the view of showing how their knowledge has been appreciated and understood.

\* \* \*

WE have taken a class of very "small boys," shown them the bones of the human skeleton, told them in plain and simple language the names of the bones, and explained the connections thereof. Questions at the close of the "lecture" evoked at once the points appreciated by the boys and the points missed. The teacher then finds his opportunity of discerning his own weakness, and of remedying the defects in his method. Next lesson-day a revival of the previous lecture was given, and our experience—now of many years extent—goes to show that boys and girls do not forget facts thus taught them. How different is the case with the home-prepared lessons and the "hearing" of such lessons at school every teacher knows. What we want in schools is the "lecture-lesson," imparted by teachers who know how to interest their pupils.

\* \* \*

DR. MURRAY, of Newcastle-on-Tyne, says that hydrate of chloral is an invaluable drug in cholera-treatment. His remarks on the use of this drug, published in the *Lancet* of last week, are worthy the attention of all interested in cholera-remedies. For agreeable disinfection in the sick-room Dr. Murray recommends "essence of lemon, of orange, of bergamot, in lavender-water, or eau-de-Cologne," used as spray or on handkerchiefs.

DR. MORTIMER GRANVILLE has also an interesting suggestion. He advocates the use of the "electric bath" in cholera. "The patient," says Dr. Granville, "being placed in an ordinary bed, the legs of which are insulated by glass foot-cups, such as are commonly used for insulating pianos, and the prime conductor of the electric machine being brought into connection with the body, the sick-person may be charged with electricity without either trouble or pain of any sort." "It is easy," adds Dr. Granville, "with a little obvious care and precaution, to avoid discharging the electricity. For example, food and medicine may be administered with non-conducting china-ware without touching the body." The idea is certainly worth a trial, seeing that its adoption would not interfere with the general treatment of the disease.

\* \* \*

WE have all heard of the "horse-rider's sprain"; now, the "lawn-tennis leg" is imported into surgery. The tendon, or sinew, of a particular leg-muscle (the plantaris) is liable to rupture from exertion at lawn-tennis. In each of the cases described, the sensation experienced by the patient is described as resembling that of being smartly struck on the spot with a ball. The accident may also occur, it seems, in stepping into a railway carriage. Rest, careful bandaging, and an elastic stocking after recovery, constitute the treatment of this accident, against which lawn-tennis players should be warned.

\* \* \*

WE do not think the anti-vaccinators can complain of our editorial policy, which is that of hearing both sides of the vaccination question; but we are forced to set a limit to discussions of this kind, which threaten to become interminable. We regret, certainly, that Mr. Wheeler's reply to the *British Medical Journal* did not appear therein; for obvious reasons, we could not print the reply in *HEALTH*. Our latest contributor on the anti-vaccination side is a Mr. Lucas, of Low Fell, Gateshead. This gentleman writes a somewhat strongly-flavoured epistle on the paragraph which appeared in our "Notes by the Way" a fortnight or so ago, relative to the death from small-pox of a woman and her husband, under circumstances which, we contend, as a matter of daily experience, would have been modified, if not entirely prevented, by re-vaccination. Of course, Mr. Lucas denies that re-vaccination would have prevented the small-pox infection. Possibly infection would have been carried in any case; but that re-vaccination would have prevented those exposed to such infection from taking the disease, we regard as a matter of tolerable certainty. When we find a person writing as Mr. Lucas does about vaccination inflicting "a filthy disease" on healthy children, as if there was no such thing as healthy lymph in the world, we may readily be excused from further argument.

\* \* \*

BUT we are nevertheless tempted to give Mr. Lucas the following facts to ponder over. He appears, like many others of his way of thinking, to demand that every human being should exhibit, as regards vaccination, precisely similar results. Anti-vaccinators point with a war-whoop of delight to any case in which small-pox appears after what has apparently been an efficient vaccination. They maintain that this occasional result proves the futility of the whole process. This is arguing from particulars to universals with a vengeance. If Mr. Lucas and his friends would study biology a little, they would discover that no two animal constitutions are alike in every respect, that variation is life's law and rule, and that whilst general results and details are readily recognisable in dealing with



living beings, we must be likewise prepared to admit variability as a potent factor in life's processes at large. Thus we do not doubt that whilst the bulk of mankind are susceptible to the protective influence of vaccination, there must be a proportion of units on whom vaccination has no effect, slight effect, and bad effect respectively. This appears to us the true solution of the matter. To expect all mankind to exhibit one uniform standard relative to vaccination and its effects is highly unreasonable; and if Mr. Lucas flings the weak or unsusceptible units in our teeth, we shall reply that we don't live in a physiological Utopia, and that the world is no worse off in respect of its weaklings as regards vaccination, than it is in the case of poverty, consumption, scrofula, or any other physical or moral evils.

\* \* \*

HERE, lastly, is another fact for Mr. Lucas. A medical student, fearing for his safety during a small-pox epidemic, was re-vaccinated, whilst a brother-student trusted to his infantile vaccination for protection. Both were brought into contact with small-pox. The former escaped entirely, but the latter contracted the disease in a modified form. Would Mr. Lucas deny the protective influence of re-vaccination in the former case? Probably he would; but if so, he would require to explain, firstly, why the second student took the disease? secondly, why most persons do not take small-pox, even with a single vaccination as a protection? thirdly, why small-pox appeared in a *modified* form in the second student, and not in all its vigour? and fourthly, why, before vaccination was made compulsory, small-pox was a general and widely-spread disease, whereas it is now comparatively rare? The answers to all of these queries simply depend on the recognition of the great facts that human constitutions vary, and that whilst vaccination exercises a generally-protective and lasting influence on man, there are also cases wherein it may have no effect at all, or where it exercises an influence limited in duration against small-pox, and therefore requires renewal and repetition.

\* \* \*

THE pleasing notion that sanitary matters are coming to the front in public estimation, is decidedly fostered by the appearance of the suggestive prospectus of the "National Sanitary Corporation (Limited)," which is prepared to issue 40,000 shares at £5 each, and to utilise its capital and energy in the diffusion of health-knowledge and sanitary apparatuses at large. The special object of the Corporation is set forth as that "of rendering homes and public buildings perfect in drainage, ventilation, light, and temperature, under the guidance of a Board of scientific referees, assisted by experts and skilled workmen." Large premises at 121, Regent-street, London, W., have been secured for the operations of the Company. Here sanitary appliances will be shown and sold, whilst a lecture hall and other apartments connected with the work of the Corporation, are also to be constructed. The Board of scientific referees includes several eminent sanitarians: Dr. B. W. Richardson, Dr. Saunders, Medical Officer for the City of London, Dr. John Hopkinson, and others, will form a committee of directors in the scientific side of the Company's operations. Inspection of houses will form, we are glad to note, a prominent feature of the Corporation's work, and holders of five or more shares secure a free inspection and report of their houses. Smokeless fires and stoves are numbered amongst the Corporation's schemes. On the whole, we think such a scheme has everything—including the modern spirit of inquiry and desire for health-reform—in its favour, and we wish the movement all success.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### MIRACLE CURES AND THEIR EXPLANATION.

By DR. ANDREW WILSON, F.R.S.E.

FIRST PAPER.

THE recent article on "Faith-Healing," by Dr. Riches, has evoked a large amount of interest, and has had the effect of stimulating a healthy inquiry into the all-important topic of the nervous system on the body and its ailments. That persons should be cured of even serious ailments by what they are pleased to term "faith," is in nowise surprising to the physiologist. He knows how great and predominating an influence the workings of the brain may exercise over the body in the case of certain persons, and of those possessing susceptible temperaments and nervous constitutions. A person who firmly believes in the probability of a cure being effected in his case by means adopted either by a medical man or by a quack, produces, I believe, a special nervous condition favouring the success of the remedy conversely. We all know how disbelief in the potency of a remedy, or a desponding state of mind delay a cure, may even send a patient into the grave. Every medical man knows of cases wherein the patient has never rallied, or sought to combat his disease. The phrase "Nothing can ever do me any good" expresses a state of mind that frequently gives the death-blow to all treatment. The patient believes he will die, and as often as not the correctness of his belief is borne out by his demise. He has refused to call his nervous system, with its dominating influence, to his aid, and he perishes accordingly, and because the nervous reactions necessary for the due performance of healing processes have been wanting in his history. On the other hand, there are persons who seem to recover from severe injuries with amazing rapidity. They are intensely hopeful. The prospect of an operation, however serious, never seems to daunt them. I have heard a man lay his plans for his future, with the utmost confidence, just before undergoing one of the most serious operations known to surgery; and the result justified his hopefulness, for he recovered with rapidity from a course of surgical procedure under which a large proportion of patients sink. I have no hesitation, therefore, in saying that in this case, had the patient's disposition been of a gloomy and foreboding kind, he would probably have sunk under the operation. The successful issue of a grave operation on a hopeful man is only another illustration of the song of Autolycus:—

A merry heart goes all the day,  
Your sad tires in a mile-a.

Recognising this influence of the nervous system over the body at large, we are prepared to deal with it, in a scientific sense, as a legitimate cause of many interesting results in the way of cures of disease. But because we are not as yet able to indicate the precise *rationale* of the cure in such cases, there is no need that we should relegate them to the domain of the mysterious. Such a procedure is only compatible with a frame of mind which tends to eschew rational explanations of common events, and which finds its analogue in the belief in witchcraft, demonology, and superstition at large. The evil which is wrought by this ignorant attempt to foist supernatural, and therefore utterly unknown, causes upon our attention as the only explanation of so-called "faith cures" and "healing-miracles," cannot be over-estimated. In addition to the



actual ignoring of plain physiological details and inferences, such a mode of accounting for results fosters quackery and credulity—qualities or conditions which are none the less offensive because they are issued under a religious or pseudo-religious guise. The true method of approaching all such cases is that of, firstly, insisting upon a knowledge of the actual condition of the patient *before* the alleged cure was effected; and, secondly, of closely scrutinising the physiological history and surrounding circumstances of patient and cure alike.

An eminently interesting communication, in which the true nature of certain of the so-called "miracle cures" is duly set forth, appears in the recently-published volume of "Guy's Hospital Reports" (Vol. XLII., being Vol. XXVI. of the third series), in the form of a paper by Dr. Samuel Wilks, one of the physicians to the Hospital. I regard this paper as one of the most important contributions relating to the influence of the nervous system in inducing and giving disease which has yet appeared. In this light, I am glad to be able to present the views of Dr. Wilks to the readers of HEALTH, as a thoroughly educative study on the subject of faith-healing and modern miracles. Dr. Wilks takes as the subject of his paper the curious affection called *Hemianæsthesia*, a condition or affection in which *one half* of the body—right or left, as the case may be—loses its sensibility or sensitiveness to all impressions. This disease has attracted a large amount of attention from the fact that certain metals have been alleged to play an important part in its cure. Now, the seat of this curious affection has not been properly determined. There are cases of loss of sensation at large, due to diseases of the brain; and there are also cases in which non-sensitiveness of one arm and leg also occurs, but where the brain affection shows clearly enough how this loss of sensibility has been caused. The nature of this complete loss of sensation in one half of the body, however, remains a mystery—in so far, at least, as any nervous disease serves as its explanation. "What I have not yet found," says Dr. Wilks, "and am in search of, is a case of pure and simple hemianæsthesia, due to a cerebral (or brain) lesion." Here, then, we come face to face with an affection which, as we shall see, is eminently associated with some curious aspects of nervous action, without association with actual disease of nervous structures. We shall also note how readily such an affection lends itself, unwittingly or the reverse, to the ways or works of modern "miracle-mongers."

The cases of this half-loss of sensibility occur, as a rule, in hysterical patients, and for the most part in women. In a typical case, pins may be thrust into the affected side without the patient being aware of the operation. While common sensation, or feeling at large, is wanting in these cases, on the affected side, the senses are also absent thereon. That half of the tongue does not taste; the sight is affected; the particular nostril has no sense of smell; and hearing is deficient. As regards sight, Charcot, of Paris, whose experiments form the ground-work of our knowledge of this disorder, finds that the affected eye "may retain its power of discerning form whilst it has lost all perception of colour, the colours departing as a rule in a given series, and returning in the inverse order." Sometimes there are twitching of the limbs, or even "fits" may occur, and it is interesting to observe that along with these nervous ailments there are frequently to be noted in these patients, lapses of a moral kind as well.

In the Salpêtrière Hospital at Paris, Professor Charcot has been accustomed—as we have personally witnessed—to demonstrate the remarkable effects of metals in cases of this "half-sensitiveness," as we may name the affection. If metals are placed, say, on the affected arm, sensibility

returns, but differences exist in different individuals in the effects produced by the same metals. When the metal which most readily affects the patient is found, that metal is prescribed internally, and the cure is thus expedited by the administration of gold, silver, lead, or tin, &c., as the case may be. Dr. Wilks mentions that in about half an hour after the sensation returned to the side, the corresponding part of the opposite arm would lose its sensitiveness. This result was said to be due to a "law of transference." In due time, magnets, galvanism, and other means were also found to be capable of affecting cures; but the cases became more interesting still when it was discovered that *inert and harmless pieces of wood resembling magnets could produce precisely similar effects* to those obtained with the electrical appliances. Hence, as in the case of other nervous affections, and as has already been shown abundantly in physiological works, the explanation of these cures was relegated to the doctrine of "expectant attention." We come back to the "faith healing" and to the influence of belief over the body once again. What the nervous patient "expects" is well-nigh certain to happen. If he "expects" a cure, a cure is certain to follow whatever means are employed. If he is sceptical of the success of treatment, the disease remains persistent and intractable.

In a case mentioned by Dr. Wilks, an hysterical woman had no feeling when a needle was run into her neck or scalp on the left side; whilst the right side was highly sensitive. She was deaf on the left side, and "she called all colours by their wrong names." "Two sovereigns were fastened," says Dr. Wilks, "on her left fore-arm. After twelve minutes, she felt the prick of a needle just below the coins. After sixteen minutes, she felt the needle nearer the wrist, and there was some analgesia (absence of pain) on the corresponding side of the right arm. The experiment was continued until she could feel the prick of the needle in other parts, with a corresponding impairment on the opposite side. After a time she returned to her original state, and it was found also that she was quite anæsthetic (or non-sensitive). On the next day, two discs of lead were applied, when, after some time, she could feel a little. Then two iron discs were applied, when sensation returned, with a corresponding loss on the opposite side. Subsequently, gold was again tried, and its effects in restoring sensation being more marked than that of other metals, it was determined to give it internally. . . . At this time sensation was returning in the body, although still absent in the limbs. One night, on going round the wards, the house-physician found her asleep, and pricked her left hand with a needle; she rubbed it, took it away, and finally, on the irritation being repeated, she awoke. She was then pricked again, and could not feel at all." The further history of this case ended with the gradual recovery of the patient. After a month's treatment, she could feel an ordinary touch and the prick of a needle down to the elbow. In two weeks more she could walk easily, and was soon thereafter sent home. She took the gold for nearly eight weeks; "but," adds Dr. Wilks, "she was not aware of the nature of the remedy."

(To be continued.)

## CHOLERA.

### THIRD PAPER.

THE symptoms of cholera are well marked, and appear to be displayed in three distinct stages. There is in this, as in other diseases, a period of *incubation* during which the poison-matter of the disease may be supposed to be gather-



ing its force, by its multiplication within the body, for its outbreak. But it is difficult, if not impossible, to say anything definite concerning the period of cholera "incubation." Apparently the disease in some cases manifests itself without warning, and without any premonitory symptoms. During the epidemic of 1866, persons were known to retire to rest in perfect health apparently, to be seized at 3 a.m. with vomiting and purging, and to be taken to hospital in extreme prostration at 10 a.m. The first definite symptom of cholera appears in the form of diarrhœa, accompanied by nausea. Then succeeds a more severe attack of the bowel-symptoms, the matter from the digestive tube being fluid, and resembling in appearance the water in which rice has been boiled. Hence the term "rice-water discharges" of cholera has become a name for a highly prominent symptom of this disease. In this second stage of the affection, vomiting begins in earnest, and severe pain and cramp are experienced. The thirst is very great; the voice becomes husky, and the breathing hurried and laboured. This second stage may last for two to three hours, or may be prolonged for twelve or even fifteen hours. As the pulse grows weaker, the third stage supervenes. It is said that not more than thirty-five per cent. of the cases in which the third stage has appeared recover. A peculiar expression—the "cholera face"—then occurs; the features being pinched, and the eyeballs sinking; whilst the heart's action becomes very feeble and the breathing almost inaudible. The temperature of the body may fall as low as 94° Fahr. The intellect, however, is clear, and the patient is usually extremely restless. Death, in fatal cases, generally takes place in from three to twenty-four hours; whilst, in recovery, reaction sets in within that period. There is often seen, in fatal cases, a so-called *tepid stage*, in which, whilst the body feels cold to the touch, the temperature rises rapidly. The patient lies, in this case, in a state of collapse; the excretions become checked, the skin assumes a dusky hue, and a fatal result soon supervenes. In a favourable case, reaction is marked by the gradual rise of the temperature of the body; the pulse returns; the breathing becomes less laboured; sleep comes to the aid of reviving nature, and finally the functions of the body are duly restored.

Statistics show us, with tolerable exactitude, that we may look for the most rapid cases and for the highest death-rate at the beginning of an epidemic. In 1866, between July 10 and August 30, 509 cases of cholera were admitted to the London Hospital. Of this number 54.9 per cent. died. Week by week, however, this high death-rate decreased. The first week showed 85, and the last 37 per cent. of fatal cases. In fatal cases death occurs within 24 hours in 42 per cent. or so of the number attacked; while in 67 per cent. of the cases, death occurred within 48 hours. As regards the effect of age, in this disease, "of 100 men attacked at the age of 25-35, about 36 died; while of 100 between 35 and 45, some 44 died." "After the fifth year of life, the fatality increases with the age."

The question of *cholera-treatment* is a wide and hotly debated one. Mr. Macnamara, whose experience of cholera has been wide and varied, places great reliance upon *opium*. When called to see a case of cholera in its early stage, a pill consisting of four grains acetate (or sugar) of lead and one grain of opium was given, dissolved in water. Then a large mustard poultice was applied over the whole abdomen. The patient was made to rest in bed, and nothing in the shape of food or water was given, but as much ice was allowed to be sucked as the patient cared to employ. If diarrhœa supervened after the first pill, a

second pill was given, and a third pill (but not more) after each attack of bowel complaint. "It often happened," says Mr. Macnamara, "that the first or second pill, together with the mustard poultice, ice, and rest, was sufficient to check the progress of the disease, and the patient recovered. On seeing a patient for the first time in the second stage of the disease, or if the former treatment was unsuccessful, the pill was again prescribed, and was dissolved in water so that it might not be rejected entire in vomiting. Ice," says Mr. Macnamara, "is invaluable in this (the second) stage of the disease;" and the sick person should be allowed as much as he can take. "In the treatment of cholera there can be no question of the value of ice," is a statement repeated with emphasis by this author. If the foregoing treatment fails, 3 grains of acetate of lead and 15 drops of diluted acetic acid are to be given in water every second hour, with 15 drops of dilute sulphuric acid in water every alternate hour; the patient thus receiving an hourly draught. If the vomiting continues to be severe, a second mustard poultice should be applied, and all medicine omitted for an hour-and-a-half, when a scruple of calomel may be placed on the patient's tongue and washed down with iced water. For the cramps, friction with the hand is to be recommended, and hot-water bottles are to be placed to the soles of the feet, legs, and abdomen. After reaction sets in, care should be taken that the patient is not *over-fed*. Iced milk and arrowroot should alone be given for some time after reaction, and afterwards beef-tea or liquid meat-foods may be given by the mouth or otherwise.

The great merits of the above treatment are its simplicity, its adaptability for the wants of those who may be called upon to treat cholera far from medical aid, and its success. A writer has well remarked that there is hardly an article of the pharmacopœia which has not been tried in cholera-treatment. One person praises opium, another denounces it; one authority regards castor-oil as a specific, another regards it as a poison in cholera; one physician gives saline mixtures, the next condemns this practice as absurd; one person gives strychnia, a second calomel, a third belladonna, and so on. It might be added that Dr. Collis Browne's chlorodyne has been found very useful in cholera, as a substitute for other opiates; whilst the treatment by spirits of turpentine (in 2 or 3 drachm doses, frequently administered) has also been commended. One thing seems perfectly clear, namely, that we have no specific for cholera, and that our aim should be to endeavour, as far as possible, and as speedily as possible, to assist the exhausted forces of life to recover their tone. For this purpose we regard the treatment just mentioned as a method which is likely to be of real service.

It should be borne in mind that *disinfection* is the sheet-anchor of safety for those who are well in the event of a cholera-epidemic. All the discharges of the patient should be thoroughly and at once disinfected. For this purpose the disinfectants recommended in *HEALTH* (page 168) should be used. Pure carbolic acid, "Sanitas," bichromate of potash, nitric acid, hydrochloric acid, &c., have all been recommended for disinfecting cholera-matter. The danger which has to be guarded against in cholera is the passage of the discharges containing the cholera-poison into water, and the consequent poisoning of the water supply and diffusion of the epidemic. If care is exercised over each case of cholera as it occurs in respect of disinfection, experience proves that we can largely and effectively limit the spread of the disease.

Lastly, in event of death from cholera, our duty to the living should teach us to coffin the body at once, and



to swathe it in disinfectant materials. "Sanitas" powder, or some equally good disinfectant, should in such a case be plentifully employed.

## HEALTH ITEMS.

### LONDON SMELLS.

At the present time, when the smells of London are decidedly "pronounced," it is somewhat surprising that so simple a remedy as the chloride of lead solution—suggested in the columns of the *Times* by Dr. Domett Stone—is not universally adopted. To the late Dr. Goolden, of St. Thomas's Hospital, is due the credit of being the first to bring into public notice this invaluable disinfectant, which is costless, or nearly so, involving very little trouble, instantaneous in its effect, and perfectly safe. It may be prepared as follows: Dissolve 30 grains of nitrate of lead in a quart of water, and dissolve separately 120 grains of common salt in three gallons (a pailful) of water; pour the solutions together, and let the sediment subside, and pour off the clear, supernatant liquor for use. The sediment may be poured down any drain, cesspool, or closet. The result is a clear and saturated solution of chloride of lead. If a towel or cloth be dipped in this solution, and hung up in any place where fetid gas is in the atmosphere, it will instantaneously absorb every atom of it, and convert it into sulphide of lead, which is perfectly insoluble, and cannot in any way exercise any poisonous effect. Care must be taken to observe the proportions, as they are a matter of calculation. If the local authorities would have recourse to this deodorizer for watering the streets, the offensive odours would soon disappear. It is generally admitted that the cause of the smells so palpable at this season of the year is on the surface of the roads. When the streets are watered in hot weather, the foulness thereof which ascends and fills the air as the moisture evaporates could entirely be neutralised were the plan suggested carried out. Nitrate of lead may be obtained from the manufacturing chemist at 6d. per lb., which would make 463 gallons of the fluid! It deodorises a sewer, a slaughterhouse in the hot weather, a cesspool, or manure-heap; it prevents gold and silver plate, silver lace, and frosted silver from tarnishing, which is as delicate a test as can be applied. It may be sprinkled upon the floor with a watering-pot from time to time; and Dr. Goolden recommends its use in our picture-exhibitions and national galleries, as it would preserve the pictures and prevent the blackening effect of sewer-gas (which always exists in London, especially in crowded rooms in hot weather) on the white-lead, which forms one of the materials used in paint, especially in the Old Masters, who did not use the granulated carbonate of zinc now often substituted—to say nothing of the comfort of the spectators, who are more distressed by the carbonic acid gas eliminated from crowds in hot weather than by the heat.

In conclusion, we would strongly advise every householder to follow Dr. Domett Stone's advice, and see that it is used—if nowhere else—certainly in the dust-bins. The necessity for acting upon his advice in this respect was forcibly brought to our minds a few days since on passing through one of our West-end squares, where we detected "the rankest compound of villanous smell that ever offended nostril."

## SEATS FOR SHOPWOMEN.

IN fulfilment of our promise in a recent number of *HEALTH*, we now present our readers with illustrations of a highly-valuable invention, in which the common objection to seats behind counters occupying too much room is entirely obviated. The seat in question is known as "Avis' Patent Folding Seat," and is manufactured, we understand, by Messrs. Wrinch, of Ipswich. An inspection of our illustrations will convey a clear idea of the advantages and conveniences of these seats. In Fig. 1, the single seat is shown

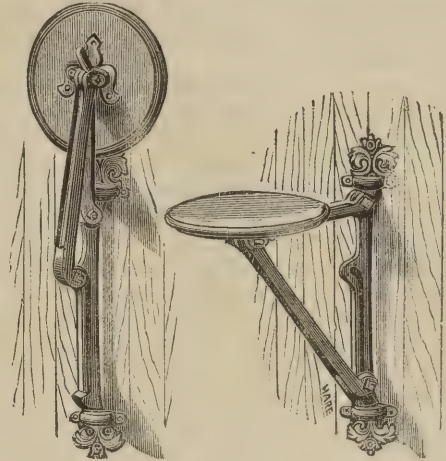


Fig. 1.

in use, and in its folded state. The amount of space occupied by the seat in its latter condition is infinitesimal, and as it is simply and instantaneously made to run parallel with the wall, no inconvenience is experienced in its use.

A longer seat, adapted to fold in like manner, is shown in Fig. 2. Considering the amount of suffering of highly

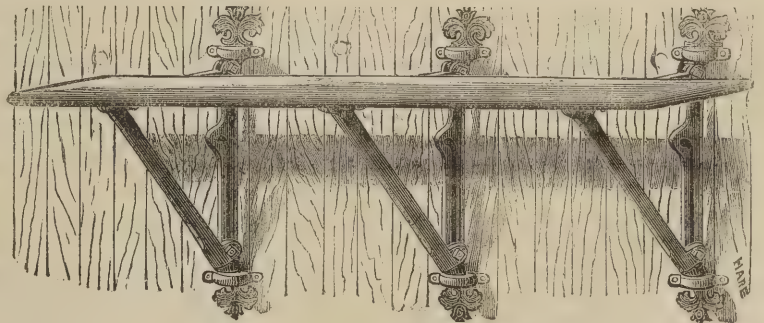


Fig. 2.

acute character which female *employées* undergo from prolonged standing, we deem it a crying evil that seats are not invariably provided for them. Many women are ruined in health by the senseless notion of masters, who insist that "proper attention to business" is discouraged by allowing their servants to be seated, even during the intervals of employment. If ladies would only raise their voices unanimously in favour of providing a little comfort for hard-worked shop-girls, they would be doing a work of real mercy. Let any one who doubts this statement inquire of her medical man the consequences of the weeks and months of "unrest" to which shopwomen are subjected. With the seats to which we allude in the market, employers who care for the health and happiness of those under their charge should have no difficulty in aiding an important health-reform. For churches, halls, ships, &c., where lack of room is an important condition in connection with seating, these seats must prove invaluable.



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### SEA-SICKNESS.

DR. ARTHUR STRADLING contributes an interesting paper on this subject to our bright and interesting contemporary *The Squire*. From this article we make the following extracts, which will prove interesting to the great bulk of our readers—especially at this season, when holidaying by sea is so much in vogue:—

"Sea-sickness is one of those maladies which—like gout, corns, chilblains, mumps, and toothache—though no joke in themselves, seem to form a never-failing subject for jest with those who have the tranquil satisfaction of watching the symptoms without experiencing personal sensation of them. A most mysterious complaint it is, too, inasmuch as scientific men have discovered neither cause nor cure as yet, although we may safely surmise sea-sickness to have existed since man first ventured upon the bosom of the deep. And while we picture to ourselves the surprise and terror of the first voyager as the unaccountable malady seized him, and his probable reference of it to supernatural wrath at his rash adventure, it is somewhat humiliating to reflect that we are almost as incapable as that primeval sailor of solving the question—What is sea-sickness?"

"The character of the motion has more to do with it than the extent, pitching being much more conducive to sea-sickness than rolling; and this leads us to conjecture that the immediate cause is the intermittent arrest of uniform onward motion. A similar phenomenon has been observed on a railway where, from some accident to its machinery, the engine has been obliged to progress in a series of short jerks, to the complete internal derangement of the travellers. People suffer more in steamers than in sailing ships, their discomfort being doubtless increased by the greasy odours from the engine-room and the vibration, especially when the stern is lifted so high by the waves that the screw is thrown out of the water, the freedom from resistance allowing it then to spin round swiftly with a tremendous whirring jar. Paddle-steamers are generally steadier than screws, because the weight of the wheels (three hundred tons apiece in some of the old ocean liners) and paddle-boxes serves to balance them; but a long paddle-boat vibrates even more unpleasantly at her after extremity than a propeller. Those who have quite got over their *mal de mer* in either, often suffer a relapse on transferring to the other, as is sometimes necessary for local navigation at the end of a journey. But how all these things act upon the stomach through the impressions conveyed by the nervous centres, yet remains for pathologists to discover.

"The writer has made a curious observation during seven years' experience as surgeon on board large trans-Atlantic passenger steamers, in which time he has had dozens of cases brought under his notice—that is, that persons afflicted with any form of mental aberration are never sea-sick, whether the aberration occurs in the shape of idiocy, common insanity, monomania, or delirium tremens; and in this he has been confirmed by the testimony of other seafaring medical men to whom he has put questions on the subject. When we know precisely what sea-sickness is, no doubt the reason for this will be apparent; but at present both points are involved in equal obscurity. It seems, however, to strengthen the theory of its being a disorder of nervous origin. Here is a crumb of comfort for 'bad sailors,' who may cast in the teeth of

ironical sympathisers, that the latter, by their indifference to the commotion of the elements and their presence at the saloon dinner, are seriously prejudicing their chance of remaining at large, should a *commissio de lunatico inquirendo* 'sit' on them at any future time.

"Luckily, this complaint rarely kills or leaves injurious *sequelæ*, bad enough as it is at the time—indeed, there is scarcely any mortal disease in which prostration and collapse are so great. 'The first hour you are afraid you will die, the second hour you are afraid you will not!' is a saying which not inaptly describes the usual condition of a victim. Every now and then one hears of some very debilitated person, or one suffering from some internal complaint which induces the rupture of an important vessel, dying from this cause (I have never known such a case); but, as a general rule, the patient quickly recovers, and is as well again as ever—or better, for it certainly does a great many people a vast amount of good. Many plans have been devised in the attempt to obviate this evil, but none of them have been attended with very marked success. The swinging saloon, which was going to render billiards feasible in the roughest weather, proved to be a failure; swinging cots or bunks necessitate that the traveller shall lie in them during the whole journey, if he would derive any benefit from their use, and, moreover, require such an amount of space for their efficient action as can seldom be afforded on board a ship; and the *Castalia* and other double boats can be used only under certain limited circumstances. As for remedies, there are a thousand reputed ones. Whether such a thing exists as a genuine specific for sea-sickness is more than I can say. I have never met with any. People get better spontaneously when the weather breaks, and then they always attribute their recovery to the last thing they have eaten, whatever it may be; and thus have arisen such 'infallible cures' as onions, sweet biscuits, oranges, cayenne pepper, stout, salt meat, milk, peppermint, cheese, brandy, gingerbread, hot water, lemon-juice, ice, grapes, soda water, champagne, radishes, and all the other nostrums that are so highly recommended. Mustard-leaves to the stomach and ice-bags to the spine are external applications which have been well spoken of, with bismuth, soda, amyl, chloral, ether, and chloroform for internal administration; in exceptional cases they may, perhaps, be beneficial, but my own experience has been that, at any rate in the first stage, drugs do more harm than good.

"An old captain with whom I once sailed, told me that when he commanded a ship which did not include a doctor among her crew, he had acquired a great reputation for curing sea-sickness. Naturally I was anxious to learn the secret, and, after considerable delay, he imparted it.

"'When we had a bit of a blow, and everybody was down, I used to keep my eye on the barometer; and as soon as that was fairly on the rise, I would send them round a glass of rum and water, disguised with a pinch of salt or dash of pepper, or anything that came handy. An hour or so afterwards we had run out of the wind, the sea would smooth down, and up they would all come on deck, cured. They all wanted some of the wonderful stuff to carry away with them for future voyages, but I always told them it was too precious to be spared. Keep a weather-glass in your surgery, my boy, and you'll make a name for yourself!'

"'But suppose anybody sends for me while the glass is falling?' I queried. 'How then?'

"'Well, don't go!'

"'But suppose they send again and insist?'

"'Then send 'em a tumbler-full of cod-liver oil, warm. They won't insist after that!'



"With which practical exposition of maritime therapeutics, he turned on his heel and took a practical dose of his remedy."

We also cull from the *British Medical Journal* the following useful hints on sea-sickness by Dr. Kendall, B.A. (Sydney), L.R.C.P.E. :—

"Many remedies have been suggested for the prevention of, and much time and patience have been expended in the attempt to relieve, sea-sickness. During a recent voyage, I had under my care about 200 cases of sea-sickness, and, from treating them, I learnt the following facts :—

"Many people, as soon as sea-sickness commences, have recourse to oranges, lemons, &c. Now oranges are very much to be avoided, on account of their bilious tendency, and even the juice of a lemon should only be allowed in cases of extreme nausea.

"*Champagne*, too, is a very common remedy, and, without doubt, in many cases does good ; but this appears to be chiefly due to its exhilarating effects, as, if it be discontinued, the result is bad, and a great amount of prostration follows.

"*Creosote* is a very old, but still very good, remedy, and, in cases accompanied by great prostration, is very useful ; but if given in the early stages of sea-sickness, it is often followed by very bad results, and even increases the nausea.

"*Bicarbonate of Soda* is useful in slight cases, as it relieves nausea, and checks the frequent eructations which often follow attacks of sea-sickness ; but in severe cases it is absolutely useless, and, in fact, it very often prolongs the retching.

"A very good remedy in the earlier stages of sea-sickness is a teaspoonful of *Worcester Sauce*. How this acts I cannot say ; but it, without doubt, relieves the symptoms, and renders the patient easier. Its action is probably of a stimulant nature.

"*Hydrocyanic Acid* is of very little service, and most acid mixtures are to be avoided, except that perhaps for drinking purposes, when it is best to acidulate the water with a small quantity of hydrochloric acid.

"Of all the drugs used, I found that the most effectual was *Bromide of Sodium*. When bromide of sodium is given in doses of 10 grains, three times a day, the attacks entirely subside, the appetite improves, and the patient is able to walk about with comfort.

"In all cases of sea-sickness it is very desirable that the patient should take sufficient food, so that at all times the stomach may be comfortably full, for by this means overstraining during fits of retching is prevented, and the amount of nausea is diminished. The practice of taking small pieces of dry biscuit is not of much use, as, although the biscuit is retained by the stomach, yet the amount taken is never sufficient to comfortably fill the stomach. Soups, milk-puddings, and sweets are to be avoided, as they increase the desire to be sick, and are followed by sickening eructations. Fat bacon is easily borne, and does much good, if only the patient can conquer his aversion to it. When taken in moderate quantity it acts as a charm, and is followed by very good results.

"But of all food, *Curry* is the most useful in sea-sickness, and is retained by the stomach when all other food has been rejected. Next to curry I would place small sandwiches of cold beef, as they look nice on the plate, and are usually retained by the stomach.

"In conclusion, I would advise that brandy should be used very sparingly, as, in many cases, it induces sea-sickness ; and its chief use is confined to those cases where the prostration is very great, and even then champagne is more effectual."

## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### REMEDIES FOR HEADACHE.

**CITRATE OF CAFFEINE, OR CAFFEINE.**—Two grains, every half-hour, in capsules if preferred, or triturated with milk sugar. It may cause sleeplessness, with some people, if taken in the evening ; but is preferable to guarana, as less liable to disturb the stomach.

**CHLORIDE OF AMMONIUM**, 3 drachms ; acetate of morphia, 1 grain ; citrate of caffeine, 30 grains ; aromatic spirit of ammonia, 1 drachm ; elixir of guarana, 4 ounces ; rose-water, 4 ounces. Mix. A dessert-spoonful to be taken at intervals of ten to fifteen minutes. This is given on the authority of Dr. W. W. Carpenter, but is open to the objection of being polypharmaceutical—a gun-shot prescription, so to speak.

**OXIDE OF ZINC**, 2 to 5 grains, thrice daily after meals. Give in pillular form.

**NUX VOMICA**,  $\frac{1}{4}$  grain of the extract, after meals. If the case is one of chlorosis, add 1 grain of reduced iron, and  $\frac{1}{2}$  grain of sulphate of quinine.

**SUBCARBONATE OF BISMUTH**, 2 (?) grains (so W. H. Hammond says), after meals, when indigestion is a cause. The dose seems very small.

**BROMIDES** are serviceable when headache follows excitement, but are said to be likely to do harm rather than good when the nervous system is exhausted.

**PHOSPHORUS**, in the form of dilute phosphoric acid, in dose of 30 drops, well diluted, thrice daily, and after eating, or in the form of **PHOSPHIDE OF ZINC**,  $\frac{1}{10}$  grain, thrice daily.

**ARSENIC**, 5 drops of "Fowler's Solution," or solution of arsenite of potassium, taken thrice daily, well diluted, and after eating. This will be found especially serviceable in the headache accompanying the menopause.

**EPSOM SALT** is said by Dr. T. Lauder Brunton to be serviceable, either in the form of a full dose, to secure brisk purgation, or small doses, taken twice daily, when frontal headache is associated with constipation. It may be noted, however, that saline purgatives are not as well borne, as a rule, by the people of this country as by those of Great Britain. The same authority recommends 10 drops of nitro-muriatic acid (dilute), in a wineglassful of water, when the bowels are already acting normally.

**BICARBONATE OF SODIUM**, 10 grains in water, before meals. This is most serviceable when frontal headache is high up, at the margins of the hairy scalp, the nitro-muriatic acid being preferable to it when the headache is located at the eyebrows.

**CANNABIS INDICA**, 10 minims, taken, thrice daily, before the attack, is said to have proved remarkable curative of sick-headache in females when the disease seemed to be of hereditary character.

**IRIS VERSICOLOR**, in minute doses, at short intervals, for sick headache accompanied with disturbances of vision, like floating specks, or flashes of light, coloured rays, &c.

**HOT WATER**, applied by means of a towel or flannel to the head. In the use of this remedy, it must be remembered that the water should be as hot as can well be borne.

**IODIDE OF POTASSIUM**, 2 grains, dissolved in half a wineglassful of water, and sipped so that its consumption will consume about ten minutes, is said to be almost a



specific in headache of a dull, heavy character, situated over the eyebrows, and accompanied by languor, chilliness, general discomfort, and distaste for food, approaching to nausea.

**OIL OF PEPPERMINT.**—The Chinese oil may be used by wetting a needle with it, and drawing the point slowly across the forehead; a sense of coolness along the track of the needle follows, and in many cases the headache quickly disappears.—*New Remedies (America)*.

## PRACTICAL MEANS OF PURIFYING THE AIR.

AN interesting article has lately been published by Dr. Tullio Bonizzard, on "Mountain Air," to which he adds the epigraph from Michel Livy:—

*Changer de climat c'est naître à une nouvelle vie.*

The author recalls the experiments of Moscati on the difference between air collected at the surface of marshy plains, and that taken from lofty hills and mountains, and draws the following conclusion:—"That people die more frequently and more quickly from the noxious influence of miasms and of carbonic acid than from the deficiency of oxygen." He proposes the following curious experiment in support of his proposition. Three hens, similar in condition, are placed, each under a large bell-glass resting on a smooth surface, so as to exclude the surrounding atmosphere. Under one of the glasses is placed, with the animal, a piece of quicklime, and, under another, pieces of wood charcoal, while the third contains only the animal. At the end of half an hour the animal under the second glass, which contained the charcoal, although less active, was not suffering. The one under the first glass, which contained the lime, was nearly dead. The hen under the third glass was quite dead. In the first case, the animal showed only slight signs of disturbance, because the charcoal had absorbed the foul air coming from the lungs. In the second case, the animal still retained some vitality, because the lime had absorbed the carbonic acid gas. In the third case, the animal died, poisoned by the carbonic acid gas and the miasms exhaled by the animal itself. These experiments prove the influence of miasmatic and poisoned atmosphere. Conclusion. 1st. To purify the air in the sick-room, place in the bed a small basket or other porous article, containing wood charcoal, for the purpose of absorbing the foul air which, if diffused throughout the surrounding atmosphere, would be constantly returned to the lungs and cause the patient to die of *auto-infection*. 2nd. In a sick-room in which infants are sleeping it is necessary to put a box or basket containing a piece of quicklime and some wood charcoal, for the purpose of fixing the carbonic acid exhaled from the lungs, and of absorbing all the foul air generated in the system, and given off by exhalation from the skin or otherwise.—*Journal d'Hygiène*.

**MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.**—**DIABETES.** VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—**DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION.** VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson*.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

NO. X.—HEALTH-RESORTS DESCRIBED (*Continued*).

**LEAMINGTON**, Warwickshire, 97 $\frac{3}{4}$  miles from Euston, and 105 miles from Paddington. Population about 23,000. The town lies 2 $\frac{1}{2}$  miles east of Warwick. The climate is bracing, but tends to dampness. During autumn and winter the climate is very suitable as a tonic, and bracing one for invalids. Leamington is most famous as a spa. The waters are all situated near the banks of the Leam. The temperature is about 48° Fahr. The springs contain chiefly chlorides of sodium, lime, and magnesium, with sulphate of soda. Carbonic acid, nitrogen, and oxygen are the chief gases. The "Old Well" is the favourite spring, but in addition there are "Goold's Spring and Baths" (with most salt), "Curtis's Well" (most chloride of magnesium), "Victoria Well" (weakly sulphurous, with a saline chalybeate or iron water), and "Lee's Well." The waters have an aperient and alterative action. They agree generally with the Cheltenham waters in action, and are suited for the same cases—gout, rheumatism, &c.; but the Leamington waters are of more active nature than those at Cheltenham. Hotels: Regent, Manor House, Clarendon, Crown, Bath, &c. Return fares from London, 28s. 3d., 21s. 9d.

**LITTLEHAMPTON**, Sussex, is 62 miles from London. Population about 6,000. The town lies between Bognor and Worthing; it has an extensive promenade, and the sands are well adapted for bathing. The climate here is bracing, but not cold. The health-characters here indicate a suitability for light chest affections; and for children, especially, the air is well suited. Persons who find a more stimulating sea air disagree with them may benefit from a stay here. Hotels: Beach, Bellevue, New Inn, Norfolk. Return fares from London, 19s. 4d., 14s. 2d., 9s. 9d.

**LLANDRINDAD**, Brecon, 214 miles from London, is rapidly acquiring a high reputation as a health-resort. There are springs of sulphurous, chalybeate, and saline nature (weaker than the Harrogate waters), which, in rheumatism, gout, dyspepsia, liver-complaints, and skin affections, are recommended. The fine, pure air here is highly-esteemed in a health-aspect. The town is seven miles from Builth. Hotels: Pump House, Rock House. The route is from Euston *via* Shrewsbury. Return fares, 54s. 2d., 41s. 3d.

**LLANDUDNO**, Carnarvon, 227 miles from London. Population about 5,000. The town lies in a valley between the Great Orme and Little Orme, and is celebrated for its picturesque surroundings. Sea bathing is plentiful, and at almost any state of the tide can be had in East Bay. The average rainfall is 32.36 in. The air is dry, and the soil quickly absorbs any rain that falls. The drainage is good, and the water supply excellent. All the characters of a bracing sea air, with a genial and mild temperature, are to be found here. There are few places better adapted for the overworked, or the debilitated; whilst recovery from fevers, &c., is rapidly promoted by the tonic air. Hotels: Adelphi, Imperial, Queen's, Royal, St. George. Return fares, 66s. 9d., 50s.

**LLANFAIRFECHAN**, Carnarvon, 231 miles from London.



Population about 2,000; reached from Euston. The town is situated on the North Welsh coast. Bathing is plentiful; and the climate is of the bracing character, and well adapted as a tonic air, for invalids and for holiday makers. Hotel: Queen's. Return fares, 68s. 3d., 51s. 3d.

**LLANSTEPHEN and FERRYSIDE**, Carnarvon, 238 miles from London, reached by Great Western Railway to Ferryside. The beach here is sandy, and well adapted for bathing. The town is placed at the mouth of the Towy. The air is mild for a seaside resort. Return fares to Ferryside, 68s., 51s.

**LLANWRTYD WELLS**, Brecon, 231 miles from London (Euston), *via* Shrewsbury. A sulphurous well exists here, and residence is recommended in cases of scrofula, rheumatism, and skin diseases. The "Wells" are thirteen miles from Builth. Return fares, 57s. 11d., 43s. 9d.

**LONDON**.—The health-characters of London differ widely over its immense area. Some cases of asthma and bronchitis are rarely well out of London, and delicate persons in some cases find a London residence that which agrees best with them "all the year round." The bracing localities of London lie mostly to the north, such as Highgate and Hampstead, but Bayswater, Richmond, and Croydon may also be cited as illustrations of localities of remarkably invigorating nature. Milder and warmer localities are found in such parts as Kensington, Putney, Barnes, Kew, and Twickenham. Brompton and Chelsea suit consumptives probably as well as any other localities. Chalybeate springs were formerly existent at Sadler's Wells and Hampstead; and Beulah Spa, Kilburn, and Streatham had aperient waters. Epsom waters contained sulphate of magnesia.

**LOWESTOFT**, Suffolk, 117 miles from London. Population about 20,000. The beach at this favourite watering-place is of sandy character, and this place may be recommended highly for all cases in which bracing air is required. The air here is very dry, and apt to be irritating to invalids suffering from chronic chest-complaints for whom Penzance or Torquay would prove beneficial. For overworked persons, dyspeptics of a mild type, and scrofulous subjects, Lowestoft is well suited. Hotels: Royal, Harbour, Suffolk, &c. Return fares, 33s., 26s. 4d., 20s. 10d.

**LYME REGIS**, Dorset, 144 miles from London. Population about 3,000. Fine sands exist here, the town lying in a bay. The rainfall is not high, and the air is mild and well adapted for nervous invalids and for delicate children, or for those recovering from illness. Hotels: Three Cups, Royal Lion, George, &c. Fares, 31s., 23s., 13s.

**LYNTON and LYMOUTH**, Devon, 225 miles from London. Population about 1,300. These places lie half-a-mile or so apart, the former being elevated. The Lymouth beach is sandy. The air here partakes of the Devonshire character, being somewhat bracing but tempered with mildness, which renders it acceptable to invalids and others. July and August are the favourite months here. September is apt to be cold. Hotels: Valley of Rocks, Lyndale, Bath, Royal Castle, Crown, &c. Fares, 42s. 4d., 32s. 8d., 22s. 1d.

**LYTHAM**, Lancashire, 223 miles from London. Population about 4,200. This place is 8 miles distant from Southport and 7 from Blackpool. The beach is sandy, and bathing at high tide is easy. The air here tends to mildness, and Lytham resembles Southport in having an "all the year round" season, the winters here being usually mild and genial. For consumptives and others the place is well suited. Hotels: Clifton, Ship, Talbot, Queen's. Return fares, 59s., 48s.

**MABLETHORPE**, Lincolnshire, 153 miles from London. Population about 600. A small village on the coast; beach sandy; bathing good; air bracing and clear. Return fares from King's Cross, 44s. 8d., 33s. 10d.

**MALVERN**, Worcestershire, 128 miles from London. Population about 6,000. It has been said that "there are few more healthy or pleasant spots in the kingdom for a summer residence than this." Malvern is eight miles S.S.W. of Worcester, and lies on the slope of the Malvern hills. Great Malvern lies at the bottom of a valley separating North Hill from the Worcestershire Beacon; while Little Malvern lies in another valley, under the Hereford Beacon. Malvern Wells is two miles from Great Malvern. The surroundings are of great beauty. The mean summer temperature is 59·8; and the mean annual temperature is 49·6. The rainfall averages 34 inches, and about 131 rainy days occur per annum. The air is pure and bracing, and for the weak or overworked, as well as for delicate females, a summer stay here is certain to be productive of good effects. The winter is cold, as also is the spring. Tropicals invalids should visit Malvern during their second summer at home. The Malvern springs are noted, but seem to contain only a little lime and soda. The water is very pure. These springs, however, have acquired a reputation, which may not be altogether fanciful, for the cure of scrofula and kidney affections. An iron spring exists at Great Malvern. Hotels: Imperial, Foley Arms, Abbey, Belle Vue, Westminster Arms (at West Malvern). Return fares, 38s. 9d., 27s. 6d. [Droitwich Brine Baths can be had at the Imperial Hotel, Malvern.]

**MARGATE**, Kent, 90 miles from London. Population about 16,000. Probably Margate is, of all sea-side resorts, the most popular. It is open to the N. and N.E., and hence the northern breezes come directly to the town, laden with all their bracing and invigorating qualities. The chalky soil absorbs water readily. From a medical point of view, Margate stands in the first rank for its high tonic and bracing properties. There is probably no place which can well compare with this town in respect of its actively bracing qualities, its effect on jaded and overworked nerves, its tonic effects in restoring convalescents to health, or its marked properties in the scrofulous and other diseases of children. Scrofulous diseases of the joints rapidly improve here. The best time to visit Margate is from May to September. Hotels: Grand, Royal York, White Hart, Cliftonville, &c. Return fares, 22s. 6d., 16s., 10s.

[**DROITWICH**, Worcester, 125 miles from London, should be mentioned as a resort which, of late years, has acquired a deservedly high reputation for its brine or salt baths, which are used with success in the cure of rheumatism, gout, and thickened joints. In the form of hot douches they have also been used for spine affections. The salt baths of Droitwich are stronger than those of Ischl or Reichenhall, on the Continent. Drs. Bainbrigge and Roden have successfully used the Droitwich baths, and we believe it is chiefly to the labours of the former that the baths have been constructed and placed on a proper footing for the treatment of disease. Return fares from Paddington, London, 35s., 26s. 6d.]

## COLLEGE ATHLETICS.

It may be well for some of the critics who denounce the policy of encouraging athletic sports in colleges; who charge to the debit of this policy many evils that fairly belong there, and some that do not; who find in these sports nothing but a wretched imitation of the habits of athletic collegians—it may be well for some of them "to play the good fellow, and come and see some of our



matches." And not only the matches, but the daily outpouring of the students into the green fields, where they can breathe the pure air of outdoors, and for the moment forget their books, and with joyous excitement obtain that bodily exercise which all need, but many neglect. It would be well for those who criticise to remember that to achieve distinction in any of these sports is not consistent with a life of debauchery, or irregular habits of any sort, but that the members of teams and crews who enter upon a course of training voluntarily adopt methodical habits of life, content themselves with a simple diet, abandon all forms of indulgence which are condemned by sanitary authorities, keep early hours, and in general conform their lives to just the model that would be selected for them by their well-wishers. Nor do the hours adopted for their daily exercise necessarily interfere with the maintenance of a good standard of scholarship.

The daily routine work of the gymnasium is in itself a bore, which would soon drop into desuetude were it not for the companionship of the great numbers interested in athletics, whose buoyant health and overflowing spirits relieve the hour of its tedium, and convert a task into a pleasure.

If we admit, as we must, that there are young men who overdo the thing, whose ambition does not rise beyond a place in the University crew; that the contests stimulate a tendency to back up the college by betting; that the expenses of the various teams have to be paid by somebody, and that subscription papers are passed around for the purpose of raising such funds; that the travelling about to play matches during term time interferes with the studies of those on the teams, and that the games ought to be so arranged as to prevent this—if we admit all this, still the weight of these charges is partially offset by the stimulus which these games give to the great health-giving system of athletics, which keeps our young men boys for a year or two longer, and will lengthen the lives of many of them by a decade.

THAT BACKYARD.—It was ventilated one year ago, through the farmer, but not renovated. So there it stands, a monument of man's neglect and woman's indifference. No changes have been made in it during the past year, except some few additions to the litter. The chicken-coops were turned up in the summer to accommodate the growing broods, but they are again tipped back and look much like wrecks on a battlefield. One more ash-barrel has been added to the number; there is a dog-kennel in one corner, and the children's play-house in another, while a few extra tin cans are scattered about. The chip pile still moulders on. Oh, that backyard! Like the city of Cologne, it is noted for its smells. Let it be cleaned! Let it be thoroughly renovated! Have a good old Aunt Dinah "clar up." Make a "bee," get out the hired man, the small boy, the wheelbarrow, the shovel, the rake, and hoe, and let nothing be left undone that should be done. Then no more will your children rush into the house with torn clothes, injured limbs, and broken noses. Sickness will give place to health, frowns to smiles, and all because the backyard is changed from a wilderness of weeds, of slush and rubbish, to a cleanly, pleasant spot.—*Utah Journal*.

HAMPSTEAD.—High and healthy position, near the Heath. STANFIELD HOUSE SCHOOL for sons of gentlemen. Home comforts; and the health of pupils carefully studied. Individual teaching. Principal: Mr. W. R. Marshall (several years' experience), assisted by eminent master. Prospectus on application.

## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney*.

TYPHOID FEVER AND POLLUTED WATER.—In reporting on the health of the rural district of Skipton, Mr. Atkinson gives a special account of an epidemic of typhoid fever at Barnoldswick, which is clearly shown to have been caused by a polluted water-supply. The first patient, a young man, was taken ill a few days before his return from Bradford (where he had been spending a holiday) with a disease which proved to be typhoid fever. Mr. Atkinson found that this man and the majority of the first cases were operatives at the "New Mill." Here the privies are situated one above the other, so as to communicate with the different storeys, and discharge their contents down a shaft into a large cesspit at its base. The walls of the shaft were found to be lined with excrement the whole way down, the accumulation of years. At the top of the privy shaft a cistern is situated containing water, which was used for drinking by the mill hands. This is pumped into the cistern from a well below a place called Bentham-square. Here there are cesspools connected with privies on each side of the square. The liquid filth from the cesspools on the higher side of the square percolates into those on the lower, so that the whole ground is saturated with sewage, and there is no doubt that the water of the well was polluted from this source. Upon analysis, it was found to be highly charged with organic matter, yielding free ammonia 0.2 part per million, albuminoid ammonia 0.16 part per million. Most of the mill operatives lived in the Bentham-square district, and some of them were known to have continued work at the New Mill during the earlier stages of the fever; hence the origin of the infection is very clear. The Bentham-square cesspools contained typhoid excreta, and their contents soaked into the New Mill water-supply. Moreover, the mill privies themselves must have been infected with typhoid excreta, from which germs must have been disseminated through the workrooms in the mill by the strong draught up the privy shaft, a fact readily recognised by the noxious smell in these rooms. The disease invaded in all nineteen families, and attacked forty-eight persons, eight of whom died.—*British Medical Journal*.

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TENACITY OF LIFE IN CATS.—The instance given of this in your last number reduces to comparative insignificance one which occurred in my own house recently, and occasioned general surprise at the time. My story is a new version of the "Mistletoe Bough," a genuine and spontaneous parody of Roger's "Genevra," only, happily for the cat, not so pathetic in its *dénouement*. A heavy old chest, containing linen, and seldom disturbed, was one day left open for a few minutes. The cat, which has an idiosyncratic propensity for making voyages of discovery into any room, cupboard, or box not usually opened, jumped in, and burrowed her way so successfully to the lowest layers, that she remained quite unperceived. The chest is fitted with two trays, both filled with wearing apparel; shortly after these were replaced one above the other, and the chest was closed and locked. Later in the day the cat was missed, and after an ineffectual search, it was supposed she had gone to pay some mysterious visit, and would return



in due course. Three days and three nights, however, passed, when one of the servants declared he heard a faint "mew" in the lobby where stood the box, and the place was diligently searched, but without result. It was only some hours later that some one remembered the chest had been opened a few days before, and coupling that fact with the well-known propensity of "Moses" (for so was the creature named), the key was sought, the heavily-laden trays were lifted out one after the other, and there, buried for about eighty hours, *sans* food, *sans* water, *sans* air, was found the lost puss, who walked out in the most leisurely way, and resumed its normal existence as if nothing had happened.—The Author of *Flemish Interiors*.

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**THE DEFORMATION OF THE BODY DURING SCHOOL LIFE.**  
—An interesting paper on the above subject was read at the recent Geneva Congress by Dr. Dally. The Swiss Governmental Department of Public Instruction had summoned many members of the teaching body under their jurisdiction to attend the sitting, in order to listen to the various opinions and recommendations on the subject. In his opening remarks, Dr. Dally alluded to the fact that Dr. Chaussier, out of 23,200 newly-born infants examined for this purpose, only found 122 possessing any abnormal peculiarities, and these he counted rather as monstrosities than deformities, being in most cases hare-lips. Thus he argued that a child is straight when it goes to school, and he attributes to the enforced maintenance of one attitude for a length of time the corporeal deformations which are displayed at a later period; the various portions of the juvenile organism are easily displaced, and if the cause continues, such displacements become permanent. He further advocated more attention being paid by doctors to the medical aspects of school life. He contested the assertions that muscular action was capable of producing deformations, and that gymnastic exercises could remove them. A point of essential importance, according to Dr. Dally's theory, is the maintenance of the suppleness of the lumbar region, and he condemned the habit of supporting the body on one side only, either in sitting or standing. He remarked that school-girls usually stand on their right leg, and attributed this custom (which is to be deprecated) to the fact of their usually inclining towards the left side the weight of the body when sitting down. This last-named position of the body being necessitated in a great degree by the modern system of slanted writing, it was argued by Dr. Dally that a return to a more upright style of penmanship is advisable.—*Lancet*.

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**CLEAN STABLES.**—There is possibly no more repulsive sight than a filthy cow-stable, and one in which dairy cattle are housed is especially offensive. It has been demonstrated that cows neglected in this respect fail to yield a perfect flow of milk, and it is reasonable to suppose that such is the case. The richest of food may be given to them, but if their condition in the stall be neglected, they will not thrive. The foul odour of a filthy stable must necessarily permeate, not only the animal's hide, but it has been proven that the meat of stall-fed steers, fattened under these circumstances, is unwholesome; moreover, the milk, even during the period of milking, is liable to absorb the filthy emanations from such stables, and to become absolutely poisonous. It would seem, therefore, reasonable that owners and dealers in cattle and milk should appreciate the importance of cleanliness and its relation to health, even as a source of profit.

## Sanitary Appliances, Etc.

**HOUGHTON'S TRAPS AND FAT AND SOLIDS INTERCEPTORS.**—We are pleased to be able to direct the attention of householders and others to two important sanitary appliances, the use of which, we believe, would tend to lessen many of the domestic evils of which we justly complain in connection with drainage and the blockage of drains. Messrs. Houghton & Co., of 21, Sloane-terrace, London, S.W., have invented an "Improved Gully-trap," which appears to us to be well adapted for situations where there is no need for special appliances, and where there is a limited fall in the drain. The trap itself is strong and perfectly made, and possesses a clean inlet from the sink-pipe, a reversible top, and an iron grid. The "solids interceptor" will be highly useful in stables, &c., where, solid matter is apt to block the drains. It consists (Fig. 1) of an

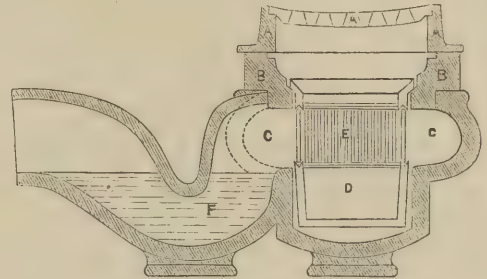


Fig. 1.

iron grid or frame (A), a reversible top (B), a chamber (C, C) round the grating (E) for allowing the egress of liquid, and a movable iron pot below (D), in which the liquid may be strained off. In the "fat interceptor" for sculleries we recognise an important and useful invention. Here the loaded water discharges into the chamber (G, Fig. 2). The inlet-pipe is seen at E, and the "outgo bend" at F; B is the ventilating pipe, and the cover (A)

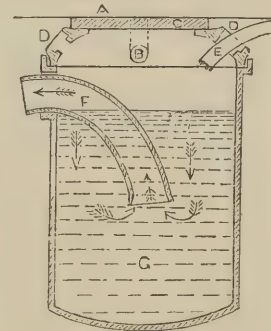


Fig. 2.

is also shown, the grease chamber (G) being thus securely covered in, retains and collects the grease. The trap is cleaned by a little ground lime being shot into the chamber, G. If householders only knew the amount of injury done to health by stoppage from grease they would see that their sinks were duly fitted with "Interceptors." There can be no doubt that the evil of grease-stopped drains is much more widely spread and possesses more serious effects on health than is commonly supposed. The accumulation of grease must act in a deleterious fashion by its liability to serve as a medium wherein disease-germs may undergo development; and many cases of disagreeable smells from sinks, which resist disinfection, are found to owe their presence to the impacted grease allowed to accumulate for long periods of time.

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."



## Our Bookshelf

"Reading maketh a full man."—Bacon.

### THE PROLONGATION OF LIFE.

*Can We Prolong Life?* By CHARLES W. DE LACY EVANS, M.R.C.S.E. (London: Ballière, Tindall, & Cox.)

THIS is a somewhat curious work, the perusal of which will certainly afford the reader some amusement and a certain amount of instruction. The author's theory of old age may be quoted in his own words (p. 29):—"Why the various functions of the body are taken away? Why we become old and die? Nature has answered us. *Induration and ossification* are the *causes* of "old age" and "natural death." And upon this fact will arise the important question, Can we prolong life?" There is a great deal of desultory writing in this book, which might well have been compressed into half its size had all matter absolutely foreign to the subject been omitted. It is therefore difficult to select any one passage which will in reasonable compass give the author's views regarding the means he thinks most suitable for aiding the prolongation of life. Two passages, however, may be quoted with the latter intent. Speaking of the action of phosphorus on the system, Mr. Evans remarks that "phosphorus therefore combines with oxygen existing in the blood, and by this means *prevents excessive oxidation* or waste of the system; again, when, on its union with oxygen, it becomes phosphoric acid, it combines with the alkaline and *earthy* bases existing in the blood, forming neutral salts; and further, as the amount of phosphoric acid increases, part of the insoluble earthy compounds which have been gradually deposited become super-phosphates, which are soluble—which circulate again in the blood, and part of which are *removed from the system* in the liquid excretions—thus *preventing the accumulation of earthy compounds* in the system, and even *removing those which have been already deposited.*" (The italics here, and elsewhere, are the author's own.) In page 162, Mr. Evans thus summarises his views respecting the diet best adapted, in his ideas, for the prolongation of life. "Phosphoric acid possesses but the one action, that of preventing undue accumulation, and of removing earthy compounds from the system, which action we have already considered. Therefore, in the agents best adapted to prolong life for a *lengthened period*, we notice chiefly distilled water used daily as a drink; unoxidised phosphorus in syrup glycerine, &c., in doses of one or two drachms, according to the strength of the solution, the *alkaline* hypophosphites, and the dilute phosphoric acid (corresponding to 10 per cent. by weight of the anhydrous acid) in doses of from ten to twenty drops, well diluted with water. These preparations may be taken two or three times daily (according to the *degree* of ossification) as an article of diet, and not as a *medecine.*"

The theory of Mr. Evans may, without doubt, be described as of a very ingenious kind; but we fear it will hardly bear the weight of scientific criticism. The tendencies which cause the human body to "grow old" are implanted too deeply in its nature to be lightly affected by any system of diet whatever. For example, when in old age we speak of "degeneration of tissue," and of that special kind of degeneration which is the abhorrence of Mr. Evans, namely, calcareous or limy change, we are in reality indicating an action which is as much part and parcel of the life of the tissues as their normal growth and development. When the walls of blood-vessels become, as they do in old age, infiltrated with lime deposits,

and when the gristle bars, or cartilages, of the ribs likewise become "ossified," we see therein a change which is as natural an accompaniment of age as vitality and growth are the concomitants of youth. No system of diet can, in our opinion, lessen or prevent this tendency, which seems to be universal throughout the quadruped race. It is wrong then to say, as Mr. Evans does, that "induration" and "ossification" are the *causes* of old age. They are the accompaniments, or results, and not the causes, of natural decay. They evince the failing powers, but they do not cause the failure; and when tissues degenerate, grow shrunken, and waste in old age, they do so because the powers which characterised them in youth are no longer able to maintain the standard of healthy vitality. Mr. Evans, it seems to us, thus puts the cart before the horse. The phosphoric dietary he recommends, would prove, we are afraid, somewhat upsetting to many constitutions. All works, written from a narrow physiological standpoint, can never hope to convey a rational and scientific view of living action. Life is too complex a thing to be kept from degenerating by phosphoric acid and fruits. There are inherited tendencies which are often too powerful for any system of mere diet to eradicate, and which may shorten life in spite of all our care. The true method of prolonging life is by attention, not to one idea or plan, but to the proper use of every detail—food, drink, air, constitution, &c.—through which our daily existence is maintained. Disagreeing thus completely with Mr. Evans's conclusions, we may yet add that his book will interest readers. The chapter on "Longevity in Man, and in the Animal and Vegetable Kingdoms," is the most interesting in the volume.

### SNAKES AND SNAKE POISONS.

*Snakes, Curiosities and Wonders of Serpent Life.* By CATHERINE C. HOPLEY. (London: Griffith & Farran.)

THE topics of Miss Hopley's large and handsome volume are, of course, somewhat foreign to the aims and objects commonly discussed in our pages; but we have pleasure in calling attention to this work, as an eminently interesting and readable contribution to the history of a most curious group of animals. The authoress's style is here and there discursive, but is, on the whole, entertaining, and seldom dull. Miss Hopley has collected a very large amount of information respecting snakes and their ways, and it is pleasing to find that she has incorporated the results of much personal observation into the volume. The chapter which naturally most interests us is that on serpent venoms and their remedies. The difficulty in dealing with such a topic is well stated by Miss Hopley. It is impossible to discover an antidote to snake-poison at large, for the simple reason that each species or family of snakes appears to possess a special venom, differing in its nature and in its action in the body from that of other tribes. As we write, Dr. Weir Mitchell, in an interesting memoir, has stated the most recent views regarding snake-poison and its nature. These remarks are of such an important character that we make no apology for quoting from them in the present instance. Dr. Mitchell shows clearly that the poisons of different snakes contain, each, three constituents. Each of these latter appears to possess properties that demand further and intricate examination; and Dr. Mitchell adds that the differences between the poisons of even widely-different snakes appear to consist rather in the relative amount and energy of these particular constituents than in any distinct deviations in general quality. "As regards antidotes," says Dr. Mitchell, "it does seem as if there had been introduced a great deal



of very needless confusion. It is quite clear that there are several substances which, being mixed with the venoms, render them inert or lessen their toxicity" (or poisonous power). "Alcohol merely precipitates, and does not coagulate these proteids (or constituents), and, of course, does no good as a locally counteractive agent. A few agents destroy alike all the proteids of venom, or at least in more or less various ways make them inert. Permanganate of potassa (seen familiarly in "Condy's Fluid") does this, and so does perchloride of iron, while dialysed iron, which throws down all the proteids, merely makes with them a combination which, when injected into the tissues, is still deadly.

"Potassa has a certain amount of protective powers, but not as complete as is that of permanganate of potassa, since its mixture with venom is innocuous, both in the areolar (or tissue) spaces and the blood, whilst the mixture of potassa and venom is only innocent in the areolæ and not in the blood, nor yet, according to Vincent Richards, an excellent observer, in the peritoneum (or lining membrane of the abdomen). Of course, if we inject at once or very early such agents as permanganate or perchloride into the track of the fangs, and by friction cause them to come more or less into contact with the venom, they will neutralise whatever they meet, destroying alike the proteids of the tissues and those of venom, and be so far remedial; but we are not as yet in possession of any agent which will follow the venom through the economy and prevent it from killing. There is as yet no physiological antidote for venom poisons.

"As regards the remarks of Dr. Badaloni on the inefficacy of viper poison in cold weather, I may say that in very cold weather all snakes are sluggish, and secrete so little, and renew their venom so slowly, that it is not surprising to find little snakes like the European viper unable to do harm in cold weather. I am sure that the poison is as efficient in cold as in warm weather. It must be a question of quantity. I have to regret the loss quite recently of a rattlesnake, 8½ ft. long, weighing about 18 lb. When he arrived, in mid-winter, he threw out into a saucer over sixty minims of venom, but renewed it very slowly until the laboratory was artificially heated. If snakes be well fed and well warmed they secrete freely, but confinement, cold, and absence of food very often diminish remarkably their toxic activity and their administrative vigour."

These interesting remarks show clearly the great difficulties that lie in the way of clearly understanding the action of the venom of snakes. It only remains to add that Miss Hopley's volume, carefully perused, will accomplish the good work of showing us that, after all, snakes are by no means the uninteresting animals which popular zoology, as a rule, declares them to be.

THE difference between a druggist and a farm-hand is said by our exchanges to be that one is a pharmacist and the other a farm-assist.

REMOVAL OF STAINS OF BICHROMATE OF POTASSIUM.—Those who work in chromic acid or bichromate of potassium are apt to acquire stains of the hand which are both disagreeable and persistent. The *Photographic News* gives the following directions for their removal:—Rub the stains with a solution of sulphurous acid, and subsequently wash with distilled or soft water. Or, to a warm, strong solution of hyposulphite of soda add a small quantity of sulphuric acid; this may then be used on the stains with similar effect.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTERS TO THE EDITOR.

### HIGH-PRESSURE LIFE.

SIR,—“The meat-eater,” the *Lancet* informs us, “lives at high-pressure”—that is, he is guilty of the great folly of consuming his life at high-pressure speed. What are the essentials of diet? We learn that disease is produced by eating the limbs of our lower fellow-creatures. First, salted meat, be it beef or pork in any shape, no one of any reflection would eat these inferior and expensive foods. In rheumatism or gout, no honest and rational man would prescribe meat; and where there is gout or rheumatism the eating of meat tends towards both these diseases. Rheumatism, you are aware, may be put aside for ever by simply obeying Nature's laws on diet. Cold or damp never produces rheumatism, but simply develops it. The acid blood is the primary cause and sustaining power of the evil. Cut off your flesh food, and the disease will leave you from incalculable sufferings.

Cooks and butchers, you are well aware, are liable to be affected with tapeworm; and where uncooked flesh is consumed, intestinal worms abound.

Rational diet, which flesh is not, places human food on a scientific foundation, and it removes, as that high authority, the *Lancet*, states, one-half of human diseases. Medical men of the greatest skill and the most undoubted authority have asserted all I claim to the moral and intellectual effect of a rational diet. Epilepsy, a fearful malady, is cured by abstaining from eating the flesh of animals. [This is a mistaken idea. Epilepsy is a grave brain-trouble over which diet has no effect.—ED. H.] Those suffering from Bright's disease are not generally allowed to eat their lower fellow-creatures, and those who would wish to avoid having that disease would be better without that most unnatural and disease-producing food.

People who are content with “the herb-bearing seed, and the tree-producing fruit” for their diet, cannot have rheumatic pains, or their joints cemented together.

The public are in the greatest ignorance with respect to the laws of life and health, and are governed in their practice by the influence of custom and conventionalism. They see the rich man feasting on the flesh of animals, and they feel if they are to preserve their health and strength, they too must have meat at any and every cost.

The better butchers at Manchester have been memorialising the City Council, praying that the vendors of horse and donkey's flesh should be required to state clearly and distinctly its real character, that the worthy tradesman who has been doing the public the favour of distributing unsuspected delicacies from the knacker's yard should label the pieces of flesh which they have hitherto been surreptitiously vending under a false description.

Donkeys are now reared expressly for eating. They cost much less than bullocks to feed, consequently can be sold profitably at a less price than sound beef, and, when they are cut up into small pieces, are not distinguishable by the poor and ignorant from beef, whose very foolish cry is—

“Back and side go bare, go bare,

Both foot and hand go cold,

But, belly, God send thee good meat enough,

Whether it be new or old.”

M. NUNN.

### FAITH-HEALING.

SIR,—I am quite sure that the readers of *HEALTH* will anticipate with interest the articles which you promise from the pen of Mr. W. Lant Carpenter, having some bearing upon this interesting



subject. Of course it is well known, and, as a matter of fact, can hardly be questioned, that certain cures have been really brought about solely by the influence of the nervous system upon the body at large; but how any mental influence can produce cures in some of the cases I cited in my article on the subject in your issue of the 29th ult., it is difficult to see. How cures by *confident expectation*, in the cases of *cancer, diseased bones, lameness for many years, curved spine, &c., &c.*, are brought about (if, in reality, such were the case), leaves room for investigation in directions involving thought and research not yet trodden by scientific experience.

Granted the bare fact of the mental influence over the body in the cases of cures in *certain* nervous complaints, it yet remains to be shown the possibility of such mental influence affecting *certain* capital physical diseases. Could we but have some *incontestable evidence* as to some of the alleged cures which I alluded to, then we should be treading upon ground which, if well ploughed up and tended, would yield harvests of truths worth gathering in. Meantime, Mr. Carpenter's papers cannot but prove highly interesting, and will bring us doubtless some steps nearer to the solution of the mysteries surrounding this subject.—I am, sir, faithfully yours,

EDWARD H. RICHES, LL.D., F.R.A.S.

July 25, 1883.

[Dr. Riches' mention of "lameness" and "curved spine" reminds us that in certain cases these affections are found to be of purely nervous origin. They might well be cured by "faith"—as, indeed, we are showing in our articles on "Miracle Cures." Dr. Tuke's mention of scurvy being cured by expectant attention is almost as wonderful as the cure of cancer, both being constitutional maladies, affecting the body at large. What is wanted is clear evidence of the patient's condition *before* the alleged "faith cure."—Ed. H.]

#### VEGETARIANISM.

SIR,—Your correspondent, "W. H. Parkis," in his letter in HEALTH of July 13, makes this query: "I should like to ask the vegetists to point out some one of the individuals who subsist on a vegetable diet, and who have attained to full mental and bodily vigour."

Mr. Isaac Pitman, whose brain work (although upwards of seventy years of age) is enough for any two ordinary men, partakes neither of flesh, fish, nor fowl.

The perplexing problem (which seems to trouble Mr. Parkis), what should we do with our cattle if we did not eat them? has been asked a thousand times. It would, like water, soon find its own level.

We do not eat our horses nor our asses, and yet we are not overburdened with those animals, neither do we build cemeteries to bury them in. But I think I hear Mr. Parkis say, "The horse and the ass are beasts of burden." Yes, and so are oxen. There is no prettier sight than a team of oxen ploughing up the land wherewith to grow those fruits and vegetables so essential to the health of the people. Contrast this with a drove of bullocks driven to the slaughter-house!

There is a noted vineyard, not far from here, whose grapes have taken prizes in America, and the proprietor fertilises his vines with the carcasses of dead animals. If our orchards were turned into burial grounds for our animals, what tremendous crops we should have; even now the bones and other offal command high prices as fertilisers.

It may not have appeared to Mr. Parkes that cattle as now bred are forced, or made to reproduce themselves before arriving at maturity, to try to keep pace with the extraordinary demand for beef and mutton; this accounts in a great measure for the diseases to which they are subject (there being lack of stamina), and which in a great measure affects the health of the people.

With respect to the supply of wool; if sheep were allowed to live, we should have all clipped fleeces to make into cloth and other woollen goods. These would wear ten times as long as the short stuff that is now scraped from off the skins in the fellmonger's yard, and as the supply of horse-hair is equal to the demand (though we do not kill them for food) so would the supply of leather wool be greater and better than it is now.

Liverpool, July 26.

W. CASTLE.

#### QUERIES AND ANSWERS.

##### GENERAL.

R. B. WALKER.—Thanks: we have given instructions for exchange. Glad to assist your work, although we can't go quite so far as you might wish.

W. CASTLE.—Glad to hear of your kind appreciation of HEALTH.

We have heard of the Sanatorium you mention; but the question of the nourishment of plants is a very intricate one botanically, and such an idea is a little apt to be pushed too far.

DR. ALLINSON.—Pamphlet received; many thanks. We may announce to our readers who feel interested in vegetarian dietary that F. P. Doremus, 30, Rochester-road, London, N.W., will send, on receipt of two stamps, a pamphlet on "Health-giving Dishes," compiled for the "National Food Reform Society," and containing a large number of recipes.

#### SANITARY.

J. BERNSTEIN.—Not in this country, at least.

C. LOCK.—Banner's would suit you, we think.

J. O. M.—Remove the trap, which is utterly useless, and discharge from end of pipe into a properly-trapped gully.

A SUBSCRIBER should use a more distinctive title, and should send a letter. Post-cards are not attended to. Droitwich is noticed in "Health Resorts" in present number.

#### MEDICAL.

IANTHE MARGARET.—1. The remedy you name we should think utterly useless for the skin. Read our papers on the Skin and Hair in Parts I. and II. of HEALTH. 2. For the hands, rub vaseline on them at night, wearing a pair of old gloves, then wash well with hot water and Pears's soap in the morning, and avoid hard work.

F.R.S.—The person's name is not on the Medical Register. We have sent the vial for analysis, and will let you know. Our belief is that a tonic like "Fellows' Syrup of the Hypophosphites" is a far more scientific and satisfactory compound than that sold at such an exorbitant price by the person you name.

GORDON.—1. We know nothing of the "Dr." you name. He is not on the Medical Register. 2. We can give you the composition of "Sage's Catarrh Remedy." Here it is:—"20 parts common salt; 1 part camphor; 1 part carbolic acid. Dissolve in water, and inject or sniff up the nose." This is Schaedler's information. 3. The other person you name is a "herbalist," we believe. We know nothing of him. For Ozoena, the treatment is (1) General; that is, attend to the general health; cod oil and iron are to be recommended, and a change to the sea will often do much good. (2) Local: use injections of Condy's Fluid and water (the so-called "catarrh" remedies are of no use in your case); try also sniffing the vapour of hydrochlorate of ammonia.

TED GARTH.—1. No remedy for "roughness" of skin, save taking care of exposure to chill, the use of a little pure vaseline at night, and care of the general health. 2. Yes; in ringworm it is necessary to remove the adjoining hairs, although, properly treated, the parasitic fungi may be killed without necessarily shaving the head. 3. Clay soils harbour water and cause dampness.

W. R. W.—You require a thorough change, rest, and a holiday. These are the desiderata in your case. After, say, six weeks' absence, you will return a new man. As a tonic, try "Fellows' Syrup of the Hypophosphites"—a teaspoonful in water thrice daily, before meals. If in the south, try Margate, Broadstairs, or Ramsgate. If north, Scarborough or Filey; if east coast, Aldborough or Clacton, Walton or Yarmouth, or go north to Scotland and try a sea voyage to Leith or Aberdeen, if you are a good sailor. In Switzerland, a moderate height; but we should prefer the sea.

A. I.—A common case, involving no actual disease, and demanding only care and attention to general health. We advise you—firstly, to sleep on a hard mattress; take no fluid just before going to bed; use the cold sponge bath every morning; live temperately; moderate open-air exercise, and the tonic recommended to "W. R. W." above. Above all, be cheerful, and, if possible, take a change of air and scene, and steer clear of quacks.

ALPHA BETA.—You suffer from a slight attack of sciatica. Clothe warmly and avoid chills. The best remedy is the injection of morphia under the skin; this can only be done by a surgeon. Mix 120 grains oil of turpentine with an ounce of honey, and take a teaspoonful morning and evening, but discontinue after five or six days if no good results. Hot and cold douches alternately played over the seat of pain are often useful. Avoid stimulants, and attend to general health.

REFORMATION.—See advice to "A.L." above. Live plainly, give up all medicines, and especially purgatives and avoid stimulants. You will get well in good time; and avoid quacks. Your case is a common one and eminently curable.

SURREY.—No cause, so far as we see, to be anxious. Your symptoms appear almost entirely of mental kind. "Cultivate a robust frame of mind," and try a change to a bracing sea-air for a time. That is the best tonic we can recommend in your case.

D. E. P.—Our opinion of the medicine you mention is given in reply to "F.R.S.," in present number. We should not advise claret



and oatmeal for supper. You might take either one or the other, but not both.

LEX.—You should know that your symptoms are not those of disease. We regard you as one in good health. Leave off your morbid fears and be cheerful, and see advice to "A. L." in present number. Be patient, live well, and all will be right in good time.

F. R. WARD. (We cannot make out your signature; this is the nearest we can go to it.)—We recommend you to try a complete vegetable dietary. Write to Mr. Doremus, 30, Rochester-road, London, N.W., and enclose two stamps for a guide to this system, which we regard as thoroughly adapted for your case. You require a sweeping change of living, and vegetarianism, we think, will cure you.

ALCESTE.—We imagine that small doses of "Æsculap" mineral water would benefit you materially for the face affection. In place of tea, try "Carnrick's Beef Peptonoids," which is a powder readily made into a strong soup by the addition of boiling water. You might also try a little good claret at dinner. Thanks for your good wishes. Glad to be of assistance again, if necessary.

F. H.—You suffer from indigestion. Don't eat late at night. Take a little "Æsculap" mineral water as an aperient, and avoid stimulants. Live generously, but temperately.

TANTALUS.—1. As a suitable aperient, we recommend you to try "Æsculap" water. 2. Your affection is, of course, a very obstinate one, as you probably know; and we think we can best discharge our duty to you by advising you under the circumstances to consult a specialist in skin diseases. It is no easy task to cure your affection, but in any case, and as it is of long-standing nature, we think you should see a specialist.

JAMES.—See advice to "A. L." and "Reformation" in present number, and be cheerful, and don't give way to morbid fears.

STOCKPORT.—1. We should recommend you, if possible, to obtain a thorough change of air for a while at least. 2. Try small doses of "Æsculap" water as a mild aperient. 3. Hot salt baths for the rheumatism. 4. A Pulvermacher's belt would probably benefit your lumbago; but what you seem to require is a thorough change, generous living, and warm clothing.

MELIUS.—We cannot say anything about the ordinary diet, and your chances of resuming it. Our experience is that your safety lies in carefully watching your state, and in becoming accustomed to regard the diet at present in use as your normal one. The eye-sight trouble, possibly, is quite independent of your affection and of the medicine given.

AJAX.—We fancy you should persevere with the cold sponging. It certainly, in time, diminishes the liability to cold. Are you sure you don't suffer from "Hay Fever"? (See our article thereon). Your greatest, and, indeed, only safety against the return of cold is the thorough bracing up of your general health, and, of course, avoidance of exposure to chill when heated.

M. A.—There are wide differences in the organisation you refer to. You present no abnormality so far as we can see, and the step you contemplate would, we think, be legitimate in every sense. Don't be anxious.

ENQUIRER.—We do not know the composition of the dye you name. It possibly corresponds to some of those mentioned in our papers on the "Hair."

A. B. C.—Heat the mixture; or get a druggist to add something to the mixture so as to emulsify it, without altering its composition.

J. ORME.—See replies to "A. L." and "Reformation" in present number.

ANTIAGNO.—Divide the dose recommended into two portions, and take one portion before dinner and another before tea. 2. Take "Æsculap" as directed on the bottle; say a little each morning for a few days. 3. We said follow directions given to "Armstrong," meaning thereby, that you should do so as far as they applied to your case.

POOR GROCER.—Give up stimulants and limit your smoking. Try small doses of "Æsculap" mineral water, which will affect the liver. In your case you seem to have sluggish liver action. Change your diet, and try what moderate open-air exercise will do for you. Eat less meat, and try light puddings with milk, fruit, &c., for a time, and don't eat late at night.

MELDRETH.—See advice to "A. L." above. Your fears are groundless, and, above all, don't grow morbid. No; the fluid mentioned is not of the character usually believed.

S. HEWITT.—You would find your reply in last week's HEALTH. C. J. K.—Clothe warmly; when you can, try what a change to a warm sea-air (south coast, for preference) will do. If the chest affection is troublesome, try inhalations of iodine (a few drops of the tincture in boiling water and the steam inhaled); smoking Stramonium cigarettes or even tobacco sometimes gives relief. See advice to "Devoniensis," in HEALTH, No. 16.

VICTORIA WALMER.—You will require to be careful in all applica-

tions to the face. Attend to the directions given in our "Hair Papers." Any surgeon or specialist devoting attention to skin-diseases should be able to apply the electrical treatment, which we recommend in preference to all others.

A. N.—1. The syringe should be a small glass one. The fluid should return after being kept for a moment or two. Exercise care, and use a proper syringe. 2. No.

MICRO-LITERARY D. Z.—1. Exercise your self-command. Without that, no advice can be of any service to you. See advice to "A. L." in present number. Use cold sponge-bath, and attend specially to sleeping on a hard mattress in a well-ventilated room.

C. F. L.—1. Possibly and probably merely a secretion, either from the mucous membrane, or an adjoining gland; certainly not that mentioned. 2. No; only the secretion above alluded to, which is not a material one, which ought not to cause alarm. 3. Exaggerated, save in neglected cases. 4. Send us your address; we never recommend practitioners in HEALTH. 5. No; the microscope is necessary. [We should recommend you to try cold sponging, and to avoid sleeping on your back.]

BLOODSHOT.—Depends entirely on the cause. Ill-ventilated rooms, exposure to chill, low state of system, using eyes too much, especially at night, &c. See to your health—in respect of the eyes, we mean.

F. S. J.—See article on "Sea Sickness," in HEALTH, in present number.

C. S. I. Y. V.—Give up your tea, and try light cocoa with milk, instead, or try a fruit breakfast. Try what a complete change of food will do for you. Give up solid meat for a time and try soups, and take occasional doses of "Æsculap" water as a mild aperient. Don't eat supper so late.

CAROLINE.—We should say Folkestone, Bournemouth, Ilfracombe, or Torquay, according as you feel able for the more or less bracing. Arcachon is favourably mentioned by Dr. Yeo, whose book, "Health Resorts and their Uses" (Chapman & Hall), we should strongly commend to your notice. Probably Cannes would suit you as well as any other place.

DARWINIAN.—We fancy not; and our opinion is that it is best to allow things to remain as they are. The only treatment would be a dye; and you are better without even those recommended in our "Hair" papers.

PETER.—Yes; if you are strong and have sufficient glow and re-action after your bath, you should take it immediately on rising from bed. Taken after shaving, your body-surface becomes chilled. You must be a lazily-inclined person if you think that a double face-washing in the morning is a trouble.

UNE FEMME.—No; we do not think the calculus had anything to do with the affection. "Addison's disease" is believed to be associated with an affection of the supra-renal bodies, and bronzing of the skin on face, neck, &c., is a symptom thereof. The functions of these bodies are unknown. It is difficult to say anything about such a case. The treatment recommended consists of the administration of cod liver oil, nourishing food, and preparations of iron. The disease itself is of highly obscure nature.

HOUSEKEEPER.—Why should pepper used as a moth-killer "be dangerous"? Try Norman's "B. B. B. Insect Killer" (37, Walbrook, London). It is certain to kill both moths and eggs.

HEALTH.—The pamphlet has a suspicious look, and its contents are, to say the least, of very silly nature. The author is a registered medical practitioner; but as his medicines are "secret remedies," we cannot advise you to have anything to do with them. Your head-symptoms will give way, we think, to a little "Æsculap" water, and to our former advice.

GORDON.—1. Try a gargle made by putting a little sulphurous acid (not sulphuric acid) into half a tumbler of water; if that does not relieve you, have your ears examined. Possibly there is wax which requires removal. A plug of wax might cause all the symptoms you describe. 2. Cannot say anything about the chest—"grating." You have possibly a little bronchitis.

TOM LORD.—See advice to "A. L." and "Meredith" in present number. Be cheerful, and don't grow morbid. What you mention is quite a common feature in health. Regarding the advertisement you send, we know nothing of the preparation; but "Liebig" is not spelt "Liebeg."

J. R.—The person whose letter you send us is a "quack." We believe he calls himself a herbalist. He is certainly not a qualified practitioner, and what the letters "A.M.S." after his name mean, we do not know. This much we can safely say, that his charge of £5 is certainly exorbitant for his "cure," and his letter is that of an illiterate man. It always puzzles us to know how sensible persons can suppose that a quack with "Professor" in front of his name, knows more of human ailments and their cures than a qualified medical man, who has spent a long lifetime, it may be, in practice. Have you any further letters of this person's? If so, kindly forward them; your name shall be kept private, but it



would be interesting to hear if he obtained his £5 and what he prescribed. Please write again.

**WILFORD WARREN.**—Your symptoms, to our mind, indicate your need for a thorough examination by a competent physician. You do not mention your age; but if, as we presume, you are past middle life, there is all the more reason why you should undergo careful medical examination. Your symptoms are somewhat numerous, and indicate a lack of tone, which you should have seen to speedily, and which may probably be readily enough cured. There is probably in your case more than one cause for the symptoms.

**H. WALTERS.**—Be encouraged, and persevere in your attempts to regain health. Yours is a common case. We advise cold sponging, moderate outdoor exercise, sleeping on a hard mattress, light but nourishing food, little or no stimulants, taking no fluid for some time before going to bed, cheerful society, and the tonic recommended to "A. L." above.

**L. JARVIE.**—Try what effect smearing the face at night with simple vaseline will have. We fear you may have some constitutional tenderness of skin, as the affection seems to resist ordinary remedies. You might also try the effect of washing with a little carbonate of soda dissolved in the water. If these measures do not relieve you, see a specialist in skin diseases.

**CURIUM.**—You do not say if your chest is healthy or whether you have cough or bronchitis. Are your teeth sound, and do you clean them regularly? Failing such knowledge, we can at least recommend you to avoid late and heavy suppers; to take small doses of "Æsculap" water as a mild aperient; and to use a gargle of

sulphurous and (not sulphuric acid), (a tablespoonful to a tumbler of water) two or three times a day. Glad to assist you further, if we can.

**S. S.**—1. No; not injurious to the teeth. 2. We prefer "Æsculap" water as a safe and mild aperient; but we should recommend you first to try a vegetable dietary, fruits, &c. 3. Not in our opinion.

### NOTICES.

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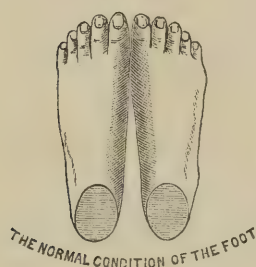
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All subscriptions are payable in advance.

**HEALTH** is also published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

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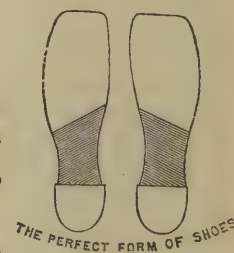
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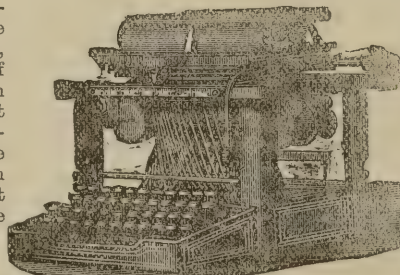
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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, AUGUST 10, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

A CURIOUS report comes to us from Rio de Janeiro. It is stated that a Dr. Domingo Freire, of that city, has recently been investigating the causes of an epidemic of yellow fever, which had assumed serious proportions. Turning his attention to the cemeteries in which the yellow-fever victims had been interred, he found (so the account goes) that the soil was positively alive with the microscopic beings which are believed to be the cause of the fever. These living particles are said to be identical with the organisms obtained from the persons of yellow-fever patients in hospital. If these researches be correctly reported, the dangers to the living from the burial of the dead become magnified and intensified a thousandfold. If, according to Dr. Freire, the rains of each year wash these yellow-fever "germs" out of the soil of the cemeteries into water-courses, the origin and spread of yellow fever are no longer matters of uncertainty or doubt.

\* \* \*

IF our readers will turn to page 133 (No. 9) of HEALTH, and re-peruse the account there given of M. Pasteur's discovery of the fashion in which the *Splenic fever* of cattle was propagated to animals from infected carcasses which had been buried deeply ten years before, they will be able to form an opinion regarding the correctness of the Rio de Janeiro experiments and surmises. It seems perfectly clear, from all we know regarding the vitality of the "germs" which cause disease, that prolonged burial in the ground does not kill them. This being so, it is difficult to see what remains to be done for the safety of the living, save to cremate the infected bodies. Many persons do not approve of cremation; but should it be distinctly proved that epidemics may be generated from time to time by the contained germs of cemeteries, sentiment, however well-founded, will require to give way before the stern necessity for preserving life.

\* \* \*

THE cholera epidemic in the East does not appear, as we write, to be on the decline. The detached cases of so-called "cholera" in England appear to partake simply of the nature of summer diarrhoea of severe type. A highly interesting observation is that which recommends the

administration of drugs in this disease "hypodermically"—that is, by injection beneath the skin, after the fashion of the familiar morphia-injection and other medicines. The Local Government Board's advice to the people, which we reprint in our present number, is well worthy the careful perusal and practical attention of every householder.

\* \* \*

THE British Medical Association has been holding its annual meeting for the present year in Liverpool. A large number of papers on highly important topics in medicine and surgery appeared in the programme. The doctors evidently "meant business" at their meeting, and the public may rest assured that all such conclaves, although of little interest to the non-professional mind, nevertheless contribute in the long run to the saving of life and the alleviation of pain and suffering. In this light, the medical meetings may well have the warmest wishes of the public for their success.

\* \* \*

NEXT month, we beg to remind our readers, the Sanitary Congress falls to be held in Glasgow. Professor Humphry is the president of the forthcoming meeting.

\* \* \*

WHEN the grumble against "dear fish" is being so widely ventilated, it becomes interesting to discover that the Bristol Guardians of the Poor used in one day 5 cwt. of fresh fish from Grimsby in providing fish dinners for the paupers. With carriage, the fish cost £5. 11s. 4d. This quantity of fish replaced 2½ cwt. of beef, which cost £8. 2s. 6d. It is stated that the inmates each obtained by weight twice as much fish as they got of beef. Those silly paupers who some time ago objected to a fish-dinner occasionally may take a lesson from their Bristol friends. But there exist many persons outside the walls of workhouses who pin their faith to the delusion that fish is but poor fare, and that unless they have a "meat-dinner" every day, life is not worth living.

\* \* \*

IN connection with the destruction of the carcasses of animals dying from splenic fever or other infectious diseases, a plan has just been ventilated in France for the disposal of such remains by dissolving the bodies in cold concentrated vitriol. The liquid which results is said to form a valuable manure. A sheep can be disposed of in this way in eighty hours. This idea should receive the attention of veterinary surgeons, agriculturists, and others.

\* \* \*

WE are glad to observe that the Inspectors of Nuisances and Sanitary Inspectors have agreed to form an association for the promotion of the aims and objects with the practical performance of which such officials are charged. There is a crying need for every effort in the direction of associating together those whose duties carry them into the sphere of practical health-reform, and the formation of such a body as that the Sanitary Inspectors have proposed will effect great good in the promotion of a knowledge of the laws and practice of hygiene. Medical Officers of Health know well how important for the due discharge of their duties are the efforts of intelligent inspectors, who may really be described as the lieutenants in the sanitation army. Mr. Samuel C. Legg, 62, Gayhurst-road, Dalston, London, E., is the honorary secretary, *pro tem.*, of the Association.

\* \* \*

IT may interest our Scottish readers to know that the programme of Health-Lectures for the coming session



promises to be even larger than in previous years. The "Combe Lectures" on "Physiology and Health," founded by the trustees of the late George Combe, will be delivered by Dr. Andrew Wilson in Burntisland, Dalkeith, Alloa, and Airdrie. A similar course will be given under the auspices of James Coats, Esq., jun., of Paisley, in the Clark Town-hall there, in October, November, and December, during which months the "Combe Lectures" will be given at Burntisland and Dalkeith. One lecture weekly is given in each town. At Leith a course of six Health-Lectures will also be given in the autumn by Dr. Wilson, and at Perth a similar course has been arranged for the spring of 1884. Hamilton and other towns are also to have lectures on health topics.

\* \* \*

THOSE who wish to see what is being done in the way of constructing sound, sanitary, and comfortable dwellings for artisans and others should pay a visit to Hornsey, where, from the designs of Mr. Rowland Plumbé, houses of five distinct classes have been erected. The *Builder*, of June 30 last, contains drawings of these houses, which appear to outrival anything which has hitherto been attempted in the art of constructing substantial dwellings, in the making of which the "jerry builder" and his ways are unknown. We trust that the Hornsey Estate experiment will be the forerunner of many similar and successful attempts in sanitary-housebuilding.

\* \* \*

"APHASIA" is a disease of the brain in which, although understanding what is said, the patient has no power of expressing his thoughts in speech, and the power of expressing thoughts in writing is usually absent as well. A curious case has recently been reported in which a patient, who had suffered from "aphasia" but who was regaining his speech-powers, suddenly became unable to read what he had written a few days previously. The power of reading printed words was also lost in time. The printed letters were seen, but were not recognised; they conveyed no intelligent meaning, in their combinations to form words, to the patient's mind. The patient could write, but could not read what he had written. In making out a word, the patient traced the letters with his finger, and this action appeared to assist the missing sensations through which the eye and brain enable us to read and to understand what is written or printed. By cultivating this finger-power, a marked improvement has resulted, but the case only adds another instance to those through the observation of which we are being enabled to gain slowly, but surely, an inkling of the manner in which the brain works and rules our lives.

\* \* \*

CHILDREN, we learn, are prohibited from work in the following kinds of factories, in France, by special decree, 1882: In the manufacture of salicylic acid from carbolic acid (*l'acide phénique*), on account of the corrosive vapours; the manufacture of celluloids and similar products, on account of the hurtful vapours, and the danger of explosives and of being burned; in shops from the manufacture of articles from celluloid and from similar substances, on account of the danger of explosions and of being burned; the manufacture of the chloride of sulphur, on account of the noxious vapours.

COLD CREAM, which easily becomes rancid, may be preserved by the addition of a small amount of salicylic acid.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### MIRACLE CURES AND THEIR EXPLANATION.

BY DR. ANDREW WILSON, F.R.S.E.

#### SECOND PAPER.

REMARKING on the curious case of "half-sensitiveness" described in my last paper, Dr. Wilks says that, whilst it is impossible to dispute the facts which have been observed regarding the cure of this affection by means of metals, he, nevertheless, doubts gravely the explanations which have been given both of the operation of the metallic remedies, and of the nature and seat of the disease. It has been already noted that cases of this curious affection appear mostly in hysterical women; but it is interesting to discover that they also occur in men. Regarding the explanation of this half-sensitiveness, Dr. Wilks says that in the idea of an arrest of the functions of the brain, in whole or in part, we may find a key to the explanation of certain temporary nervous affections. "If I am right," he continues, "we have only to suppose a cessation of action of half of the brain or a part of it, say the middle and posterior lobes, to account for loss of perception of all kinds, just as we may suppose an implication of the anterior part to result in a loss of power." Again, speaking of the reason why one hemisphere or half of the brain should cease to act, Dr. Wilks says that in very many instances such an explanation is to be found in the occurrence of "a physical or moral shock." In a former paper our author described the case of a girl, "who, owing to a sudden fright, fell into a state of lethargy, in which she lost the power of feeling as well as seeing or hearing." If, therefore, says Dr. Wilks, we simply "halve" these results, we find an explanation of the "half-sensitiveness" of which he is treating. Dr. Wilks adduces a very pregnant fact in support of his theory. "When, for example, one side of the body is perfectly helpless from disease of one side of the brain (each side of the brain governs the opposite side of the body), the other half of the body is still under the control of its supervising (brain) hemisphere in voluntary acts. There are many persons who from infancy have had a wasted hemisphere, and a correspondingly withered half of the body, and have yet retained their individuality and their power over the healthy half." The false nature of alleged "faith-healing" becomes apparent when we reflect, that, if in the case of the girl above described her full nervous powers had returned under the stimulation of a period of religious frenzy and excitement, she would undoubtedly have been made to pose as an example of a "miracle-cure." In such a case, the mental and nervous excitement, itself accompanied by physical actions and changes in the nervous centres, simply acts as a natural stimulus, similar to the hopefulness of a patient which carries him safely through the difficulties and dangers of a serious surgical operation.

Many other organs of the body exhibit alternating periods of activity and quiescence, such as, in Dr. Wilks' views, part of the brain and nervous system may occasionally illustrate. The actions of the stomach, liver, &c., may also be very strikingly affected by sudden shock and mental emotion. It is not surprising, therefore, that where the brain itself is affected we should see results, and also witness cures, which, to the ignorant or uninitiated, appear little short of miraculous, and inexplicable save on the theory of supernatural interference.



There is a noteworthy point in connection with these cases of nervous affections which must be borne in mind in judging of their probable causes and of the nature of their cures. It is often extremely difficult to obtain accurate accounts of the state, feelings, and powers of these patients, owing to the moral obliquities and perversions which accompany their affections. Westphal, in the course of his researches into the effect of metals on "half-sensitiveness," says that the results described by Dr. Charcot appeared correct, but that "it was remarkable that every one of his (Westphal's) patients had been in contact with the criminal law."

But the most striking illustration of the relation of nervous influence to "miracle cures," is certainly afforded by the case of Albert R., who was admitted on July 16, 1881, to Guy's Hospital, under the care of Dr. Wilks. He was brought to hospital by the police, having been found insensible and convulsed in the streets. The account he gave of himself, prior to his admission to hospital, included a recital of Australian life, fights in New Guinea, and so forth; and, in addition, the history of an illness in June, 1881, for which he was treated in the London Hospital. According to Dr. Wilks, however, the patient's story, from the nature of his after-conduct, cannot be relied upon. On being examined at Guy's, his left arm and leg were paralysed, but neither face nor tongue were affected, as would certainly have been the case had the seizure been due to apoplexy. From the whole of his left side, sensitiveness was absent. With the left eye, he could not distinguish colours, and could only make out light and darkness. Hearing in the left side was gone, as also were smell and taste. The senses on the right side were natural. He had a convulsive fit in the evening of his admission; his right limbs being thrown about, but the left remaining quiet. July 19 found him so noisy that he was transferred to a strong-room, and, although inflammation of the brain was suspected, "his strange manner raised a suspicion of malingering"—that is, of feigning disease. On July 21st water was injected into his arm instead of the morphia with which he had been treated, when he immediately quieted down for some hours, talking sensibly, and asking to be sent back to his ward. But the sensibility in the left side was still wanting. The water-injection was continued with the same effect for some days, and metals were applied to his arm and leg. On July 27th he could move his limbs a little, and was sitting up in a wheel-chair. On July 30th Dr. Steele informed him that the Duchess of Sutherland had written enclosing a sovereign, and saying she wished him to come and fetch some money she had for him. That evening he complained of pain in the left leg, which, however, he was able to move as well as the other. On the 31st he walked up and down the ward with assistance, but said he could not move the left arm, the limb falling helplessly when raised. He was seen, however, to use this arm occasionally to support himself. He was then told he could not be allowed out that day, and in the evening he could scarcely walk.

On August 1 he was allowed to go out to see the Duchess, and got up and walked about. Sensitiveness was returning to his limbs during the next few days, but his senses were "still dull." In the middle of August, 1881, he left Guy's. He was then able "to walk very well, and to move the left arm partially," but sensitiveness had not completely returned. "He said he was well enough to work, and left with that object."

The sequel, however, is highly interesting and instructive. Dr. Wilks heard no more of Albert R. until his name was discovered in a French religious journal of October 7, 1882, called the *Rosier de Marie*. This journal,

quoting from the *Journal des Lourdes*, gave an account of a pilgrimage which had been taken to Lourdes by the Archbishop of Cambrai and numerous followers. In that pilgrimage Albert R. was included. He had been a patient at Lille hospital; all his symptoms had apparently returned, and he had apparently been furnished with a wooden leg in addition to crutches.

The scene at Lourdes must have been curious in the extreme. Albert R. descends into the spring or grotto ("piscine") wherein the cures were effected. "My brethren," said the Archbishop, with tears in his eyes, "let us tell our beads twenty times for the sick of the pilgrimage of Cambrai. As he concluded, a cry was heard from the grotto, and soon thereafter a man, still young, advanced trembling with emotion, and carrying in his hands two useless crutches. It was Albert Rose, of the Lille Hospital, afflicted with hemiplegia (half paralysis) and hemi-anæsthesia (half-sensitiveness) of the left side, at the end of an unsuccessful operation for trepanning. He only walked with two crutches, and the left knee supported by a wooden leg. He had also lost the use of the left eye. The physicians of the Medical Congress at London had declared him incurable.\* Plunged into the grotto, amidst the prayers of the people outside with the holy Archbishop, the leg all at once extended itself, and his left eye opened to the light. He was completely cured."

On hearing of this "miraculous cure," Dr. Wilks wrote to Dr. Béchamp, of Lille, who afforded all the information he could gain; the hospital physicians, however, being unwilling to give an opinion, as the case was "under investigation." *The patient, however, as was learned from one of the letters written by a hospital physician, experienced a return of all his symptoms when he returned to Lille, and became an inmate of another hospital.* The following is the extract referred to:—"He had been treated, under my care, for epileptic fits and for hemiplegia with half-sensitiveness. When he left, his state was not notably improved. He went to Lourdes, and was suddenly cured in the presence of many witnesses. On his return to Lille, movement and sensibility had returned. I did not witness it myself, since I was absent, but several of my students, who knew him, attest the fact. We had lost sight of him for several weeks, and yesterday a letter informed me that he was entered at the Hospital de V., presenting the same symptoms as before, and seeking to conceal his identity by pretending that the miracle-cured at Lourdes is his brother, and not himself."

(To be continued.)

## ELECTRICAL QUACKERY.

VARIOUS correspondents have pointed out a fact—which has of late been otherwise brought prominently under our notice—namely, that the public are being deluged with many appliances, said to be of electrical nature, but which may certainly be described in a legitimate manner as being shams of the most transparent kind. That there are to be had genuine electrical belts and other forms of apparatus is, of course, a well-known fact. The appliances, however, to which we allude are variously described as being "magnetic" or "electrical" in nature. They are puffed and advertised to the full as genuine forms of scientific apparatus, guaranteed to cure diseases of the gravest description. Under this designation they are sold by the proprietors

\* This statement receives the most direct contradiction from Dr. Wilks. Albert R. was not shown to the International Medical Congress at London. He was simply shown to Dr. Lancereaux, who visited Guy's Hospital with Dr. Wilks. Needless to say, neither Dr. Wilks nor Dr. Lancereaux pronounced him "incurable."



and purchased by the public, whose means of knowing whether or not the articles are capable of producing the results claimed for them, are naturally of the most limited kind, or are entirely non-existent. The appliances, in respect of their form and nature, present a wide variety. Magnetic or electric "belts" and "garters" are the most frequent forms in which electrical quackery is dispensed; but there are also to be had electrical combs and brushes of various descriptions, which, upon scientific examination, are found to be utterly inadequate to produce the results claimed for their use. We have before us, as we write, one of those much-vaunted appliances in the shape of a "belt." It is composed of the material of which stays are made, and resembles an ordinary abdominal belt in form, shape, and size. Attached to the surface of this belt are a number of thin, rounded metal plates, connected in pairs by wires; but the separate pairs are not connected with each other. It need not be said that for this "belt"—which is sold at a very high price, considering its value—well-nigh all the virtues of every branch of the "healing art" are claimed. We have had the belt in question tested by a well-known scientific lecturer and experimentalist, Mr. William Lant Carpenter (who will next week address our readers on the subject of electrical appliances and their uses at large) with the result that not the least sign of an electrical current could be detected when it was used as directed. Apparatus of a singularly delicate character was employed in the tests. When the belt was put under conditions far more likely to produce an electric current in it than when worn according to the directions given with it, the effect was equally "nil." Hence we are forced to declare that this "belt"—the type, unfortunately, of too many kindred appliances—is simply a swindle and a sham; and we affirm that its manufacturers and sellers, in claiming for it the virtues and powers of a powerful electrical apparatus, are guilty of nothing short of a distinct fraud.

Another form of electrical sham, not quite so glaring as the "belt" fraud, but still appearing as a form of public deception, is found in certain so-called portable electrical batteries, devised so as to be carried on the person, and intended theoretically to provide a constant application of the electrical current to the frame. Such batteries, it is true, may unquestionably produce electrical currents. But these are so weak and feeble, and so utterly unfitted to produce any of the effects for which electricity, as a medical and remedial agent, is employed, that the batteries to which we allude are practically useless. The human body, it should be understood, presents such an immense resistance to the passage of the electrical force, that a feeble current can count for nothing in the treatment of disease. Persons, therefore, who pay money for articles, which at the best can produce currents of infinitesimal strength, purchase a form of apparatus which is manifestly a "sham" in this latter sense. For the same, or less, money, they could procure, from any respectable and scientific electrician, a chain, or machine, which, in so far as the production of electrical currents is concerned, would undoubtedly be both effective and genuine.

We have before us a letter addressed to the editor of *HEALTH*, in which the writer, with whose name and address we have been furnished as the fullest and best evidence of his *bona fides*, details his experience in the purchase of an electrical hair-brush. On procuring the article in question, our correspondent tested it; but, finding that it had no electrical qualities as described, he demanded his money back, whereupon that request was at once complied with. Naturally, the subject of electricity in its relations to the human body and to the cure of disease is a topic of

intricate nature. This much is admitted by leading medical authorities. Unless, therefore, we are to accept the monstrous proposition that the electrical quacks are better acquainted both with electricity and medicine than trained and educated scientists in these departments, it seems perfectly clear that the sooner the public are warned against the impostures in question, the better will it be both for the public health and the public purse.

This is not the first occasion on which the electrical quacks, who prey upon that section of the public which is seeking after health, have been condemned and exposed. Professor Sylvanus Thompson, of Bristol, was loud in his condemnation of these shams, and the journals devoted to the exposition of electrical science have likewise denounced these impositions. We should wish to impress our readers with, at least, two very plain facts, often overlooked, but the recognition of which would certainly guard them against becoming the victims of fraud. First in order, we would impress them with the idea that it is absurd and erroneous to regard all electrical appliances as partaking of the nature of quack nostrums. There exist respectable firms, at the head of which are placed men of undoubted scientific attainments, and whose articles are of a thoroughly genuine kind. The grievous harm which the electrical quacks do to honest traders in genuine electrical appliances, is readily seen when we remember the common habit of including all such appliances under the name of quack remedies, because many are undoubtedly impostures. The second piece of advice is equally important with the first, and it is that which advises the public to deal only with respectable electricians, and to have the articles they buy tested before purchase. We shall be glad to test, as to their electrical efficiency, for the readers of *HEALTH*, free of charge, any belts, bands, or other appliances which may be forwarded to us—prepaid, and to be returned at the sender's expense—for inspection. In this way we shall endeavour to contribute our quota of aid towards the repression of an evil which is all the more grievous because it falsifies hopes and expectations concerning that all-important topic—our physical health and well-being.

In Mr. Carpenter's papers, the publication of which we shall commence next week in *HEALTH*, adequate information respecting trustworthy electrical appliances and their uses will be afforded.

## HEALTH ITEMS.

### THE CHOLERA.

By W. DOMETT STONE, M.D., F.R.C.S.

SINCE writing the article on Cholera, in No. 14 of *HEALTH*, published on July 13, I have come across a few notes of a visit I paid some time since to the wretched hovels in the precincts of Lisson Grove. When I recall to memory the scenes I there saw of immorality, filth, degradation, vice, squalid poverty, and the total disregard of everything pertaining to sanitation, I find it difficult to realise the fearful havoc a pestilence would inevitably play in that district. Should the "cholera-wave" pass over these lands it could not find a more congenial soil than the locality indicated. I write this advisedly, and I assert, without fear of contradiction, that there are few places, if any, on the face of the earth where such a state of things exists, or would be permitted to exist. Throughout my peregrinations in the four quarters of the globe, I have never witnessed anything at all comparable to, or even approaching the lamentable condition of the poor in this district. Even the mud huts of Nubia, the kraals of South Africa, and the tenements occupied by the poor of Constantinople, Jerusalem,



and New York are—though, of course, far from perfect—more healthy than the rooms and cellars in which so many of our poor are huddled together, irrespective of age and sex! Such a state of affairs surely demands immediate legislation.

“Act,—act in the living present!  
Heart within, and God o’erhead!”

**EARACHE.**—Earache in children is usually due to one of a few causes. Either there is inflammation, there is neuralgia from malarial poisoning or decayed teeth, there is pain due to cerebral disease, or there is a tense tympanic membrane caused by swelling of the mucous membrane lining the Eustachian tube, and interference with the passage of air, so that when the air of the middle ear is absorbed, and a partial vacuum results, the membrane of the tympanum is rendered over-tense by the atmospheric pressure, and pain is caused. The latter will be found to exist in the great majority of cases, and the cure consists in inflating the middle-ear, and not in pouring a solution of atropine or of anything else into the external canal. The next thing to be done is the relief of the sore throat or nasal catarrh that has led to the swelling of the Eustachian canal. Valsalva’s method of inflating the middle ear is not entirely free from risk, but it is far safer than the indiscriminate use of such a poison as atropine. It is done by taking a deep breath, holding the nose, closing the lips tightly, and then forcing air into the middle ear by an expiratory effort of the chest and abdominal muscles. This procedure will commonly put a stop to earache almost instantly.

**REMOVAL OF FRECKLES.**—A German authority says that the careful application of a small piece of the ointment of the oleate of copper at night upon retiring will usually remove freckles. The oleate of copper ointment should be prepared by dissolving one drachm of the salt of the oleate of copper in sufficient oleo-palmitic acid to make a soft ointment.

**TESTING FLOUR FOR ADULTERATIONS.**—Mr. H. Kraetzer, of Leipzig, has indicated several simple modes of testing the quality of flour. He says that a good, unadulterated flour, on a handful of it being taken, firmly pressed, and then placed on a board, must preserve the pressed shape. If the mass gives way the flour is usually adulterated. Moreover, it should feel soft to the touch, although somewhat granulous. On passing a knife over it it should spread widely, and if made into dough with a little water it should harden quickly. The best and strongest wheat-flour must appear purely white, and if dissolved in eight parts of pure spring water it should appear milky white, and no extraneous substances should show themselves on the surface. Ordinary flour must have a yellowish colour and adhere to the fingers, and be dry and weighty. It should be capable of being pressed in the hand into lumps.

**MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES.** VAN ABBOTT’S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—**DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION.** VAN ABBOTT’S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. “Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals.” — *Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]

## Personal Health

“Be timely wise;  
With health all taste of pleasure flies.”—*Gay*.

### PRECAUTIONS AGAINST THE INFECTION OF CHOLERA.

THE following is the text of the directions which have just been issued by the Local Government Board :—

1. As there are outbreaks of Cholera at several places in Egypt, and it may perhaps extend to places which are in frequent and rapid communication with England, it is possible that cases of the disease may before long be brought into the ports of this country.

2. The Order of the Local Government Board, of July 12, 1883, renews the special powers conferred by the Board’s Order of July 17, 1873 upon the sanitary authorities of the sea coast, to enable them to deal with any cases of Cholera brought into port, so as to prevent, as far as possible, the spread of the disease into the country. But as cases of choleraic infection have widely different degrees of severity, it is possible that some such cases, slightly affected, will, notwithstanding the vigilance of local authorities, be landed without particular notice in English sea-board towns, whence then they may advance to other, and perhaps inland, places.

3. Former experience of cholera in England justifies a belief that the presence of imported cases of the disease at various spots in the country will not be capable of causing much injury to the population, if the places receiving the infection have had the advantage of proper sanitary administration; and, in order that all local populations may make their self-defence as effective as they can, it will be well for them to have regard to the present state of knowledge concerning the mode in which epidemics of cholera (at least in this country) are produced.

4. Cholera in England shows itself so little contagious, in the sense in which small-pox and scarlatina are commonly called contagious, that, if reasonable care be taken where it is present, there is almost no risk that the disease will spread to persons who nurse and otherwise closely attend upon the sick. But cholera has a certain peculiar infectiveness of its own, which, *where local conditions assist*, can operate with terrible force, and at considerable distances from the sick. It is characteristic of cholera (and as much so of the slight cases where diarrhoea is the only symptom as of the disease in its more developed and alarming form) that *all matters which the patient discharges from his stomach and bowels are infective*. Probably, under ordinary circumstances, the patient has no power of infecting other persons except by means of these discharges; nor any power of infecting even by them except in so far as particles of them are enabled to taint the food, water, or air, which people consume. Thus, when a case of cholera is imported into any place, the disease is not likely to spread, unless in proportion as it finds, locally open to it, certain facilities for spreading by *indirect infection*.

5. In order rightly to appreciate what these facilities must be, the following considerations have to be borne in mind :—*first*, that any choleraic discharge, cast without previous thorough disinfection into any cesspool or drain, or other depository or conduit of filth, infects the excremental matters with which it there mingles, and probably, more or less, the effluvia which those



matters evolve; *secondly*, that the infective power of choleraic discharges attaches to whatever bedding, clothing, towels, and like things, have been imbued with them, and renders these things, if not thoroughly disinfected, as capable of spreading the disease in places to which they are sent (for washing or other purposes) as, in like circumstances, the patient himself would be; *thirdly*, that if, by leakage or soakage from cesspools or drains, or through reckless casting out of slops and washwater, any taint (however small) of the infective material gets access to wells or other sources of drinking-water, it imparts to enormous volumes of water the power of propagating the disease. When due regard is had to these possibilities of indirect infection, there will be no difficulty in understanding that even a single case of cholera, perhaps of the slightest degree, and perhaps quite unsuspected in its neighbourhood, may, *if local circumstances co-operate*, exert a terribly infective power on considerable masses of population.

6. The dangers which have to be guarded against as favouring the spread of Cholera-infection are particularly two. First, and above all, there is the danger of WATER-SUPPLIES which are in any (even the slightest) degree tainted by house refuse or other like kinds of filth; as where there is out-flow, leakage, or filtration, from sewers, house-drains, privies, cesspools, foul ditches, or the like, into springs, streams, wells, or reservoirs, from which the supply of water is drawn, or into the soil in which the wells are situate; a danger which may exist on a small scale (but perhaps often repeated in the same district) at the pump or dip-well of a private house, or, on a large and even vast scale, in the source of public water-works. And *secondly*, there is the danger of breathing AIR which is foul with effluvia from the same sorts of impurity.

7. Information as to the high degree in which those two dangers affect the public health in ordinary times, and as to the special importance which attaches to them at times when any diarrhoeal infection is likely to be introduced, has now for so many years been before the public, that the improved systems of refuse-removal and water-supply by which those dangers are permanently obviated for large populations, and also the minor structural improvements by which separate households are secured against them, ought long ago to have come into universal use.

So far, however, as this wiser course has not been adopted in any sanitary district, security must, as far as practicable, be sought in measures of a temporary and palliative kind.

(a.) Immediate and searching examination of sources of water-supply should be made in all cases where the source is in any degree open to the suspicion of impurity; and the water both from private and public sources should be examined. Where pollution is discovered everything practicable should be done to prevent the pollution from continuing, or, if this object cannot be attained, to prevent the water from being drunk. Cisterns should be cleaned, and any connections of waste-pipes with drains should be severed.

(b.) Simultaneously, there should be immediate thorough removal of every sort of house-refuse and other filth which has accumulated in neglected places; future accumulations of the same sort should be prevented; attention should be given to all defects of house-drains and sinks through which offensive smells are let into houses; thorough washing and lime-washing of uncleanly premises, especially of such as are densely occupied, should be practised again and again.

8. It may fairly be believed that, in considerable parts of the country, conditions favourable to the spread of cholera are now less abundant than at any former time;

and in this connection the gratifying fact deserves to be recorded that during recent years enteric fever, the disease which in its methods of extension bears the nearest resemblance to cholera, has continuously and notably declined in England. But it is certain that in many places such conditions are present as would, if cholera were introduced, assist in the spread of that disease. It is to be hoped that in all these cases the local sanitary authorities will *at once* do everything that can be done to put their districts into a wholesome state. Measures of cleanliness, taken beforehand, are of far more importance for the protection of a district against cholera than removal or disinfection or disinfection of filth after the disease has actually made its appearance.

9. It is important for the public very distinctly to remember that pains taken and costs incurred for the purposes to which this Memorandum refers, cannot in any event be regarded as wasted. The local conditions which would enable cholera, if imported, to spread its infection in this country, are conditions which day by day, in the absence of cholera, create and spread other diseases; diseases which, as being never absent from the country, are in the long run far more destructive than cholera; and the sanitary improvements which would justify a sense of security against any apprehended importation of cholera would, to their extent, though cholera should never reappear in England, give amply remunerative results in the prevention of those other diseases.

GEORGE BUCHANAN,

Medical Officer of the Board.

Local Government Board,

July 13, 1883.

LINSEED POULTICES: HOW TO MAKE AND HOW TO APPLY THEM.—F. P. Atkinson, M.D., says that the meal deprived of its oil is far better than that from which the oil has not been extracted. The latter does not retain its heat as long, and, unless covered by some fabric, is not so easily removed as the poultice made from the former. The exhausted meal takes up more water, and retains its heat longer. In making a poultice, the meal should be thoroughly stirred with a spoon, while boiling water is gradually added, and when of proper (rather soft) consistence, should be spread on linen. The ability to bear the heat on the back of the hand is a good test of the degree to be used. The poultice should be applied *directly* to the skin, with out intervening fabric, and covered on the outside with good oiled-silk. A teaspoonful of laudanum may be sprinkled on the surface to increase its anodyne effects, or in place of water may be used a boiling infusion of chamomile or poppy-heads. When the skin is inflamed, three grains of sulphate of zinc or of alum may be added to each ounce of the water. A solution of one to forty of carbolic acid may be used instead of simple water in the case of sloughing wounds. Once in four hours is a good rule to follow in changing poultices on the chest, the front and back being covered by separate poultices, and only one should be removed at a time. A fresh one should be ready when the change is made. Frequent changes are most grateful in cases of abdominal pain.

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## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### HOW MUNICIPALITIES MAY FAVOUR HEALTH.

THE relations of corporations to health have never been so clearly stated as in the paper on "Economy in Sanitation," read by Captain Douglas Galton at the Society of Arts. From that paper we take the following important and interesting statements:—"The commercial system, therefore, whilst it indicates the manner in which the want can be met, does not fully supply that want. I have already shown that, where a large population is located in a town, on a limited area, the conditions under which it can exist are very different from those which prevail in more scattered communities. The inhabitants are more dependent upon each other's well-being; because, where the community is concentrated, its safety from disease is much more dependent than in a scattered community upon preventing, as far as possible, the existence of foci of either moral or physical disease. If we look at the progress of municipal legislation, we find that this is daily becoming more and more recognised, and in most large towns, in proportion as our towns have extended, so have the municipalities extended their functions. Municipalities have long seen that it is for the benefit of the communities which they govern that they should undertake the supply of pure water and of light. They have acquired powers for regulating the construction of houses, and for the enforcement of certain sanitary arrangements in inhabited buildings. They have the power to condemn insanitary dwellings, to expropriate the owners, to purchase the property, to cause the unhealthy dwellings to be pulled down, and to sell or let the property for new dwellings, and, in the case of some towns, to provide the new dwellings. Private enterprise does not provide capital with rapidity for the replacement of bad dwellings by good ones, and many medical officers have told me that they hesitate to condemn buildings which they consider insanitary, because, if pulled down, there would be nothing substituted, and the occupants would be homeless, or overcrowded into other houses, which would become equally unhealthy.

"The municipality undertakes the building of work-house hospitals and of fever hospitals; and numerous people in and out of Parliament are urging legislation for the purpose of checking the spread of infectious diseases. But the reports of the medical officers of the different towns show that the principal foci of these diseases exist in the insanitary dwellings of the very poor, and that it is from these that the larger number of occupants of them and of all hospitals mainly come.

"Mr. Burdett states that our London hospitals and dispensaries cost nearly £600,000 annually to administer. The average number of out-patients treated at the various institutions in a year is about 1,000,000, that is to say, more than one out of every four inhabitants of the metropolis becomes an out-patient in the course of the year.

"This expenditure is incurred mainly for the purpose of patching up the wretched poor, who live in the dwellings to which I allude, and who have been injured by bad drainage, want of ventilation, darkness, &c.; for though drink may be one of the immediate causes of many hospital cases, yet the tendency to drink is created and fostered by the wretched dwellings of the very poor. But besides the

time lost by the sickness itself, there is the large amount of time wasted by the poor in going to and waiting at hospitals, which would be spent by healthy poor in labour. There is, moreover, the great amount of lassitude and idleness in the low-class poor, which Dr. Richardson traces to want of ventilation, in their own and former generations.

"A few years ago the communities awoke to the necessity of abolishing the cesspools under houses, and of constructing sewers to receive the matter they used to contain. In the case of large towns, where a dense population had been allowed to grow up in closely-packed dwellings on a restricted area, the blocks of insanitary dwellings may be termed moral cesspools, and the community has itself to blame for having permitted and even fostered their creation in its midst. It is as important to the well-being of the community that these moral cesspools, which are foci of disease, should be removed from its midst, as that works of drainage should be constructed. It is not, therefore, sufficient to give the medical officer of health the power of condemning insanitary dwellings, or for the municipality to pull down those buildings; but it is essential, in order that the nation may make adequate sanitary progress, that when insanitary buildings are pulled down, and when private enterprise is not ready to step in, the municipality should be required to provide new and improved dwellings in the place of those condemned; and that the rents for these dwellings should be fixed on a scale to allow of their occupation by the very poor.

"It is not in any way as a philanthropic measure that I advocate this, but as a measure of sanitation, of economy, and of protection to the rest of the community. It is manifest, from the experience of the companies who have erected these dwellings, that the condition of the population located therein is as healthy as that of the occupants of the healthiest parts of the town, although the number of inhabitants per acre is as great as that of the densest parts of the population; and the same experience shows that, even with the low rents which the very poor may afford to pay, the cost of maintaining them, together with a moderate percentage, can be obtained on the capital expended. The population of London amounts now to nearly 4,000,000, and will, at its present steady rate of increase, amount to 6,000,000 before the end of the century. Consider, for a moment, what this means. It is double the population of all Switzerland; it is more than the population of Egypt or Belgium. We insist upon educating the children of the people, and we place the children, during their school-hours, in airy, spacious rooms. But follow those children who live in the more densely crowded parts of this city to their homes in confined courts, without circulation of air; their playground in the court or street—often in the midst of refuse—and learning, from the example of the parents, that the only comfortable place is the gin-palace and the music-hall. It is not sufficient to content ourselves with giving education to this population; the education will be dangerous rather than beneficial if we allow the wretched dwellings which exist in so many parts of this vast metropolis to continue to exist. We have abolished the cesspools, which bred fever and intensified the plague of cholera; we must now abolish the wretched dwellings, which are moral cesspools, and which intensify moral disease by fostering crime and discontent.

"If the education which we now give so lavishly is to produce beneficial fruits, we must attend to the material comfort of the people as well as to their moral training. The provision of proper dwellings for the people is the natural complement of the measures which have been passed for the education of the people."



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

By A PHYSICIAN.

XL.—HEALTH-RESORTS DESCRIBED (*Continued*).

**MATLOCK**, Derbyshire, 144 miles from London *via* Midland Railway from St. Pancras. Population about 6,000. The town is situated in Matlock Dale, which runs north and south for two miles, and is bounded by rocks rising some 300 ft. high. The Derwent flows through the Dale. The waters here do not appear to possess any decided or marked medicinal properties. They are described as tepid and mildly chalybeate. The Matlock valley is mild and warm in winter, and the summer temperature is cool. The advantage of Matlock consists in the fact that a bracing air on the slopes can be had, whilst a milder climate exists in the more protected situations. Residence here in summer is agreeable, and suits those who are delicate from any cause, and who cannot stand a bracing air. **BUXTON** (which see) is 22 miles distant. Hotels: Walker's, Tyack's, Royal, New Bath, &c. Return fares, 38s. 4d., 23s. 10d.

**MILLPORT**, Bute, is readily reached by steamers from Glasgow. A good beach exists, and the climate, whilst bracing, is also mild and warm. Hotels: Kelburne Arms, Cumbrae.

**MINEHEAD**, Somerset, 151 miles from London by Great Western Railway, *via* Taunton. Population about 2,000. The season is a summer one. The beach in the east is sandy, and bathing is plentiful. The climate is bracing, and well adapted for children and invalids. The mildness of Minehead renders it suitable for those with whom the sea may not agree in other places. Dyspeptics benefit from a stay here, also nervous complaints. Hotels: Beach, Feathers. Return fares, 59s. 9d., 45s. 6d.

**MOFFAT**, Dumfriesshire, 340 miles from London, and 40 from Carlisle, is situated near the west coast main line (London and North-Western and Caledonian Railways) from London to the north. A branch line now connects the junction Beattock with Moffat. Population about 3,000. Moffat is celebrated as a spa. The water here is of strong iron or chalybeate character, and has been highly recommended in cases of bloodlessness, debility, gout, and rheumatism, as well as in liver complaints. The climate is of the mild type, and is relaxing somewhat; but the surroundings of the town are bracing. Hotels: Annandale Arms, Buccleuch Arms. A large hydropathic establishment also exists. Return fares, 92s. 3d., 72s. 6d., 54s. 2d.

**MORECAMBE**, Lancashire, 235 miles from London, and 5 from Lancaster. Population about 4,000. Route *via* Midland from St. Pancras direct: or *via* L. & N. W. R. *via* Lancaster. A very extensive beach exists, and bathing is good. The season is a summer one, and the climate is bracing, and a typical marine one, and, as such, well adapted for scrofulous cases, overwork, &c. Hotels: North-Western, Crown, King's Arms, Pier, Queen's, &c. Return fares, 65s., 38s. 10d.

**NAIRN**, Nairnshire, is placed on the shores of the Moray Frith, 636 miles from London, and 93 from Aberdeen. Population about 4,000. The beach is sandy, and

baths also exist. The air is very invigorating, Nairn forming a favourite seaside resort in the north. Hotels: Marine, Anderson's. Return fares, 150s. 116s. 9d., 85s.

**NEW BRIGHTON**, Cheshire, is placed at the mouth of the Mersey, and is reached by local steamer from Liverpool, whence it is distant about three miles. The beach is a wide expanse of sand. The air here is bracing and well adapted as a restorative agent in all wasting diseases. The town is much frequented as a holiday resort. Hotels: Victoria, Royal Ferry, and New Brighton.

**NEW QUAY**, Cornwall, is 302 miles from London, *via* Plymouth on South-Western Railway. Population about 2,000. A long sandy beach exists. The summer air is well adapted for convalescents and others, although apt occasionally to be cold. Hotel: Prout's. Return fares, 93s., 68s.

**NEW QUAY**, Cardigan, lies between Aberystwith and Cardigan, in a bay. It is reached by omnibus from New Quay Road Station. Beach sandy, climate bracing. Hotels: Black Lion, Queen's.

**OBAN**, Argyleshire, often named the "Brighton of the North," lies in a picturesque bay, and occupies a sheltered position. The town is 126 miles from Glasgow, whence it can be reached by Messrs. Macbrayne's well-appointed steamers, whilst ready access to this famous resort is had by railway, the Oban line branching off from the Caledonian main line at Dunblane, near Stirling. This railway passes through some of the loveliest scenery in the West Highlands. As Oban lies directly in the tourist's pathway to and from the Highlands, the town has largely grown in importance as a resort. Large and well-appointed hotels exist, and every convenience can be had in the way of apartments, provisions, coach-tours, &c. A favourite tour, which has Oban as its centre, is that wherein the tourist, stepping into a comfortable through carriage at St. Pancras or Euston at night, finds himself in the morning at Greenock-on-the-Clyde. Here he steps on board the famous steamer *Columbia*, of Mr. Macbrayne, breakfasts on board, and at one p.m. arrives at Ardrishaig, whence, *via* the Crinan Canal, he passes to Crinan, and there embarks on a well-appointed steamer, which lands him at Oban the same evening. From Oban he tours to Staffa and Iona, or passes up the Caledonian Canal to Inverness. Bathing can be had at Oban, the climate of which, despite a tendency to wet, is highly salubrious. Hotels: Great Western, Alexandra, Craig Ard, King's Arms, Caledonian, &c.

**PAIGNTON**, Devonshire, 222 miles from London (population about 5,000) is placed on the coast, and possesses a sandy beach, with ample bathing facilities. The Devonshire mildness is less represented here, perhaps, than in other resorts, and hence the value of Paignton as a bracing resort is enhanced. The place is well adapted for all who require an invigorating air. Hotels: Crown and Anchor, Gerston, Esplanade. Return fares, 64s. 6d., 46s. 3d.

**PEEBLES AND INNERLEITHEN**, Peebleshire, 27 miles from Edinburgh, and 374 miles from London. Both places are famous as health-resorts, and the latter has a saline spring. The climate here is of the mild type, and well adapted for invalids and others for whom the sea is unsuitable. Hotels: Commercial, Crown, Tontine, and at Innerleithen, Riddle's. Return fares from London, 104s. 9d., 82s., 60s. 5d. A large and magnificent hydropathic establishment has been established at Peebles.

**PENARTH**, Glamorgan, is a sea-side suburb of Cardiff,

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noted for its mild climate. It is distant 10 miles from Weston-super-Mare. Accommodation in apartments.

**PENMAENMAWR**, Carnarvon, 229 miles from London, *via* Euston. This town lies in a bay, and has a beautiful bay, with bright firm sand. Bathing is plentiful. The climate is mild, but invigorating, and agrees well with invalids and children, and those suffering from overwork. Hotel: The Penmaenmawr. Return fares, 67s. 3d.; 50s. 9d.

**PENZANCE**, Cornwall, 328 miles from London, *via* South-Western Railway. The town lies in Mount's Bay, 10 miles from Land's End. The rainfall here is 44 inches per annum. The mean annual temperature of summer being 60°, of autumn 53°, of spring 49°, and of winter, 44°. About 179 days per annum are wet, the rain being seldom excessive. The climate here is of the warm, mild, and relaxing type. As a winter climate it has warmth and equability of temperature. The spring here, as elsewhere in Cornwall, is less warm than in other and nearer-situated resorts; in spring, therefore, Penzance is not adapted for invalids. Chest affections benefit from a stay here, and especially those of chronic type. Those in early stages of consumption, where a dry cough exists, are well adapted for a stay here, and cases of nervous debility also benefit from the climate. Hotels: Mount's Bay, Longhurst's Union, Dingley's Private, &c. Return fares from London, 102s. 9d.; 73s.

**PORTOBELLO**, Edinburgh, a suburb of that city, situated on the Frith of Forth. A long pier exists, and bathing is plentiful. The air is of the bracing type, and accommodation mostly in apartments.

**PWLLHELI**, Carnarvon, 251 miles from London, *via* London and North-Western Railway. Population about 3,000. The town lies on the coast opposite Barmouth. It has a sandy beach, and has a sheltered aspect, whilst the climate is not over-bracing. Return fares, 76s. 9d., 55s. 4d.

**QUEENSTOWN**, Cork, 169 miles from Dublin; faces Cork Harbour, and is situated on Cove Island. It is well sheltered on the north. Rainfall, 35 inches per annum, with 131 wet days per year. The summer is cool, and the air a tonic one. The winter is mild. Cases of throat and chest troubles, scrofula, skin affections, rheumatism, dyspepsia, &c., benefit from a stay here. The beach is well adapted for bathing. The town is built in terraces, and the situations best adapted to particular cases can thus be chosen.

## PHYSICAL EXERCISE: ITS USES.

By CHARLES W. CATHCART, M.B., F.R.C.S.

Lecturer on Anatomy, Edin. Med. School; Chairman Edinburgh University Athletic Club, &c.

TREATING the subject, as we do at present, from a school point of view, and for the most part for boys, we may now consider how Physical Exercise may be utilised as a recreation and occupation, and what its advantages are as a moral and physical training.

No one who has watched the playgrounds of any of our schools, whether for boys or for girls, can doubt that there is a strong natural tendency for the young people to take their relaxation in the form of active play. It is more marked in some than in others, and is especially seen in boys rather than in girls; but, taken for all in all, no one can deny that its presence is so distinct as to be worthy of being classed as an instinct. Now, if we inquire into the cause of this, we will find that in great measure it is to be explained as an outcome of that superabundance of energy

which seems to characterise the healthy vigour of a young and growing animal. The muscles, while they are growing, seem to hunger for exercise, and there is a pleasure in using them when in this condition, which older people, who have forgotten their youth, cannot understand. This is why a healthy child is so restless. A frequent change of position is as much a necessity of its frame as its breakfast in the morning, and we need not wonder if the limbs are thrown about and the body contorted in a way that seems beyond the necessity of what is aimed at. Fortunately this aspect of restlessness is becoming much more generally recognised than it used to be, and a frequent change of position in many children's schools is now a part of the school programme. If we require additional evidence as to the sportive tendency of young animals, we have only to appeal to the playfulness of a kitten, or the gambols of a lamb, in contrast to the sobriety in behaviour of the demure fireside puss, or the solemn stupidity of a staid old sheep.

If, then, the leaning towards active play which most children manifest is a natural and healthy feeling, it will be better to try to regulate it, rather than to attempt to suppress it by measures in direct opposition. Men have long ago learned to deal in this way with the strictly physical laws of nature. It is not by blindly resisting them, but by understanding their modes of working, and using them each in its own way, that men have gained the so-called mastery over nature. Our care, therefore, in the matter of exercise will have to be that the children get it in the proper way—that none get too much, none too little, and that all get enough.

It will be found that in the form of games physical exercise as a recreation, is one of the best methods of changing the current of thought for the time being. In this way the brain is allowed to rest, and, accordingly, is all the readier to return to its work when the lesson hour begins again. In all our more active games there is an interest and point which fixes the attention, and occupies the mind for the time being in such a way as to divert it from previous occupations. This distinguishes physical exercise, taken in the form of a game, from the same amount taken in the form of set gymnastic exercises or any routine labour. In both the same amount of work, perhaps, is done by the muscles; but the one which lacks the diversion of thought and stimulus of interest is inferior as a recreation, and probably also as means of exercise. But another argument in favour of this exercise is that, while it tends to improve the immediate brain work, it also contributes in the most important way, by increasing the physique, to add to the efficiency and vigour of the work of after-life.

As an occupation in schools, physical exercise, if properly directed and encouraged, will be found to be invaluable. It is almost the only means of diverting the superfluous energy of the healthy young animal from more injurious courses; for, as Dr. Watts tells,

Satan finds some mischief still  
For idle hands to do.

Many of the injurious practices, and most of the silly schemes for mischief, which are only too common in many

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."—[ADVT.]



of our schools, might be traced to habits of loafing and a want of systematic exercise all through the ranks of the scholars. It is not enough that such and such healthy games are played at such and such a school, but it must be seen that not a select few, but all, play it in proportion as they are able. To a superficial observer, exercise indulged in by a certain number is often taken as an indication of what is enjoyed by the whole, whereas, very possibly from want of proper supervision, some are taking too much, and a considerable number too little, or none at all.

In respect to the question of physical development, much that might have been said here has already been anticipated in the previous article on what physical exercise really means. We may add, however, that in schools and colleges, and among recruits for the army, where it has been possible to observe the changes in those undergoing regular exercise, the results in the way of improved physique and increased energy and vigour in cases of neglected exercise, have been extremely striking.

Lastly, we may briefly consider some of the advantages to be gained from active games in the way of moral qualities brought out and cultivated. Among them all, perhaps, we may take perseverance first, as a quality necessary to excellence in every game, whatever its nature. Some people, of course, naturally learn more quickly than others, but to all persevering practice brings its sure reward in the form of an improvement which is the more impressive that it is rapidly visible. Again, submission to a leader is a *sine quâ non* to the efficient working of most active sports, and surely the lesson of obedience, even to the self-chosen leader of a game, is not to be despised as unfruitful of after benefit. But to those who in their turn are fortunate enough to be chosen as the captains or leaders the advantage is even greater. The position tends to foster qualities of firmness, courtesy, and tact, and the power of commanding obedience without incurring ill-feeling, which will stand them in good stead in many a position in after-life. Unselfishness, too, is called out in such games as football and hockey, where combined play among those of the same side is a necessity, if there is to be distinction between two nearly equally balanced teams. Often must the chance of a brilliant piece of play be passed on to another of the same side whose opportunities are still better, and it is only by so doing that the whole side will gain; and this is now so well recognised, that "unselfishness" is one of the most important points to be looked for in defining the character of any particular player.

Again, in many games there is a great demand for rapid decision and prompt action. In judging the possibility of a sharp "run" at cricket, or the exact time to make a "charge" at football, everything depends on quick decision. Even if the judgment has been mistaken, the point *may* be gained by boldly pushing on; but a moment's hesitation will bring almost certain failure.

There are many other qualities which might be spoken of, but we will conclude with a few words on what is known in foot-ball circles as "following up." This means that a player must keep always up to the ball. Tired or not, he must be "dead on." And it is only when he is on the spot that he will find opportunities for serving his side opening up to him, which would have been lost had he been a moment later.

The qualities which we have mentioned as brought out in the games, are probably not much thought about by those who exhibit them; but none the less on this account will they be helping to mould the general character; and, if we recollect that at the same time the general tone and

vigour of the body is improved, we must be convinced of the very high importance of such physical exercises in any general scheme of education. To quote from Mr. Spencer, "the first requisite to success in life is 'to be a good animal,' and to be a nation of good animals is the first condition to national prosperity."

POPULATION OF THE WORLD.—A carefully-prepared report of the population of the various countries of the world is that issued from time to time by Drs. Behm and Wagner. A new edition of this publication has just appeared, the previous one having been issued two years. Within this interval censuses have been taken in a large number of countries, and the results of these are embodied in this work. But in the case of some countries no official statistics are to be had, and for such countries the figures presented are necessarily the result of computation or even conjecture. The report of the population of China, for instance, is but an estimate, while that of Central Africa can be little better than a guess. The results given by Behm and Wagner are, however, generally accepted as the most trustworthy published. The total population of the globe is now reported by them at 1,433,800,000. According to their last report it was 1,455,900,000. This difference would indicate a decrease of 22,000,000, but, as a matter of fact, there has, according to these authorities, been an increase of more than 33,000,000. This is explained by the fact that the population of China has been very much over-estimated heretofore. In the last issue of this work it was given at 434,000,000; it is now put at 379,000,000. In fact, in those countries alone in which censuses have been taken, the official returns show an aggregate increase of 32,000,000 during the preceding interval of ten years. The number of people inhabiting the larger divisions of the globe, as given by Behm and Wagner, are as follows:—Europe, 327,743,000; Asia, 795,591,000; Africa, 205,823,000; America, 100,415,000; Australia and Polynesia, 4,232,000; Polar regions, 82,000; Russia is credited with 83,000,000 inhabitants; China, 379,000,000; Japan, 36,000,000, and British India, 252,000,000.

THE COLDEST PLACE IN THE WORLD.—Verchogansk, in Siberia, is the coldest place in the world. At one time it was thought that the coldest weather was to be found at Irkoutsk, but the average temperature at Verchogansk is much lower; in January it is 45° centigrade, in February 49°, in March 33°, &c. On Dec. 30, 1871, the thermometer was 63° below zero, but this, however, happened but once. The cold is so intense that three coats of reindeer skin scarcely prevent the wearer's blood from freezing. Every respiratory movement hurts the throat and lungs. The watery exhalations of the breath freeze and present the aspect of fine needles of ice. These rub one against the other, making a noise like that of tearing velvet or thick silk. An English traveller relates that the whole of the caravan which accompanied him on his journey in these parts were enveloped in a blue cloud composed of the condensed breath of the men and animals. A crow flying slowly through the frozen air left behind it a track of condensed vapour.

CEMENT FOR GLASS.—Dissolve 1 part of caoutchouc in 64 parts of chloroform, add 16 parts of finely-powdered mastic, and let the mixture stand, in the cold, until the mastic is dissolved. If more than the above quantity of caoutchouc is taken the resulting cement will be more elastic. When using it, it should be applied, with a brush to the broken surfaces.



# Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**FILTER AND BOIL.**—It would be well, especially just now, if "filter and boil" could be adopted as a housewife's maxim in regard to the water used for domestic purposes in all great cities, and especially London. Nothing short of first filtering and then boiling can render the water supplied by the London companies safe to drink. Public companies generally regard the public as their lawful prey, and water companies are particularly predatory. Water companies wish to have matters all their own way. They cut off the water, limit the supply, and give—what they choose to give—as bad as they please—with impunity. Some years ago the engineer of one of the London companies gravely asked Parliament for power to turn on the water from a foul river direct, without passing through the so-called "filters" or settling-beds, when any special demand occurred! Just now, with cholera at our doors, as a contemporary observes, the companies are engrossed with their own pecuniary interests. Under the circumstances their proceedings require to be closely watched, and care should be taken that the filthy liquid which they dole out to us is filtered and boiled before we use it. We shall do wisely to look, also, carefully to the quantity supplied, and in the event of anything even approaching to a restriction, long before scarcity is reached, to resort to the Englishman's most cherished privilege, and—*complain.*—*Lancet.*

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**BUILDING ON DISUSED BURIAL-GROUNDS.**—Building operations have been carried on in several burial-grounds in London, but in all instances the human remains have been decently removed and re-interred before the buildings have been erected. Application has lately been made to the Metropolitan Board of Works for permission to construct a new street and build a number of houses across the disused burial-ground in Bethnal-green, known as Peel-grove. A copy of this application was forwarded by the Metropolitan Board of Works to the Bethnal-green Vestry for their consideration and report, and in the course of the discussion it was stated that it was proposed to make the street and build the houses without removing the coffins and their contents; and that, consequently, there was a risk of the foundations of the houses giving way, and the road sinking, as many of the bodies could not be entirely decomposed. This statement must have been made in error, as, under the By-laws of the Metropolitan Board, which were made under the Buildings Act Amendment, no house shall be erected on made ground, until "any animal matter or refuse which may have been deposited on the site, shall have been properly removed, by excavation or otherwise, from such site;" and also, that the foundations for the walls shall be formed of a body of good concrete nine inches thick. However that may be, the Bethnal-green Vestry passed the following resolution, which was ordered to be sent to the Metropolitan Board: "That, in the opinion of this Vestry, it is extremely objectionable that any houses should be erected on the disused burial-ground in Peel-grove, unless the bodies therein have been previously properly removed." It was stated during the debate that there had been not less than 20,000 human

bodies deposited in this small burial-ground, and that the buildings to be erected were for the accommodation of 400 families of the working classes, so that this resolution is by no means uncalled for. We suppose that the words "properly removed" are intended to mean with the use of disinfectants, if the medical officer of health should deem them to be necessary during the removal; but it is somewhat repulsive to contemplate such a wholesale desecration of the dead; and it would be much better for the land to be purchased as an open space for recreation than to cover with buildings, and under the restrictions mentioned, a ground which contains so many human remains.—*British Medical Journal.*

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**ACCLIMATISATION OF EDIBLE SHELL-FISH.**—A recent and interesting notice by Mr. F. P. Marrat, of Liverpool, who is an excellent conchologist, mentions the introduction into the Cheshire coast of what he calls the "wampum clam," or *Venus mercenaria* of Linné; and he concludes that there is "a fair prospect of the naturalisation, on the extensive shallow shores of Lancashire and Cheshire, of an extremely nutritious and highly-esteemed food-product, new to Great Britain." The late Professor Gould says that this mollusk is known in Massachusetts under the name of "Quahog," given to it by the Indians. According to him and other American writers on the subject, the true "clam" *par excellence* is *Mya arenaria* of Linné. I was present as a guest at one of the fashionable "clam-feasts," but the muddy flavour derived from the habitat of that mollusk does not agreeably recommend itself to my palatable recollection. However, *chacun à son goût!* *Mya arenaria* inhabits the western coasts of the North Pacific as well as both sides of the North Atlantic. The American oyster (*Ostrea virginica* of Gmelin = *O. borealis* and *O. canadensis* of Lamarck) is peculiar to North America, and has now found its way into the London market. It differs from the common European oyster (*O. edulis*, L.), and is equally variable as regards size. *O. virginica* has been within the last few years introduced into the mouth of the Tagus, and is called the Portuguese oyster. The facility of transport was not then so great as it is at present; and a gamey flavour was probably not so much relished by the Romans as it is said to have been by our King George the First, who preferred oysters a week old at Hanover to those which he afterwards got in England. Within the last few years the "periwinkle" (*Littorina litorea*, L.), which is a favourite delicacy of our poorer classes, has spread with unusual rapidity along the eastern shores of the North American continent. Mr. Arthur F. Gray, in *Science News* for April, 1879, attributed its origin to Europe. It certainly does not seem to have been observed in America by Gould or any other conchologist before 1870. Pre-eminent among land shells, as a dainty article of food in France, is *Helix pomatia*, L. It is a mistake to suppose that the Romans, when they possessed and inhabited Great Britain, brought this snail with them to indulge their luxurious tastes. In all probability it was not even known to them, because another species (*H. lucorum*, Müller) takes its place in Central Italy. *H. pomatia* has not been found at Wroxeter or York, or in any other part of England or Wales where the Romans built cities or had important military stations. Among the *débris* of an extensive Roman villa discovered in Northamptonshire, in which the shells of cockles, oysters, mussels, and whelks abounded, not one of *H. pomatia* occurred, although at Woodford, a few miles distant, that species is plentiful in a living state.—*Dr. J. Gwyn Jeffreys, in "Nature."*



## Our Bookshelf

"Reading maketh a full man."—Bacon.

### THE VOICE.

*The Science of Voice Production and Preservation, for the use of Speakers and Singers.* By GORDON HOLMES. (London: Chatto & Windus, Piccadilly.)

IN his preface, Mr. Holmes informs us that the present work is an abridgment of his "Treatise on Vocal Physiology and Hygiene." This volume is a neat, handy, and compact little work, such as should undoubtedly interest and instruct all who make the care of the voice a matter of study. Now-a-days, when culture of the voice is becoming a topic in which gentle and simple are alike interested, a book like that before us should be widely read. We have carefully glanced through its pages, and are enabled to speak highly of its merits. The author writes in an easy style, destitute, for the most part, of technicality, whilst the illustrations—a few of which we reproduce here—materially aid the easy comprehension of the chief points in the anatomy and functions of the vocal organs.

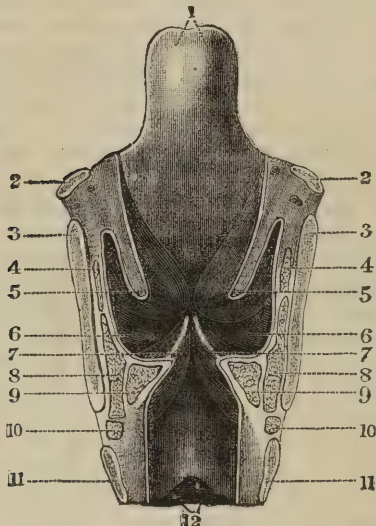


Fig. 1.

The production of voice is, in reality, a much more complex matter than is generally supposed. The *thorax*, or chest, with its contained lungs, the windpipe, and the *larynx*, or voice-organ placed at the top of the windpipe, produce the sounds which we collectively name "voice;" whilst certain parts of the voice-organ and the mouth-cavity, tongue, lips, &c., together modify the sounds thus produced. Every one knows the chest is in part a bony framework, which, by muscular action, is made to expand and contract in the movements of breathing; and we also know, as a matter of common experience, that it is in the outgoings of the air that we are enabled to give origin to the tones which constitute "voice." The "larynx," or organ of voice, having "Adam's apple" as its front prominence, is a complex structure. Mr. Holmes gives a lucid description of its parts. As seen in Fig. 1, which represents the larynx in section viewed from behind, we see the *epiglottis* (1). This structure is also shown in Fig. 2, at 6, and is there seen to be at the root of the

tongue. It is the *epiglottis* which, in swallowing, closes over the entrance to the windpipe, and prevents food from entering that tube. The front and sides of the larynx are formed by the *thyroid cartilage* (Fig. 1, 3); and the *cricoid cartilage* (11), which Mr. Holmes describes as resembling a signet-ring in shape, lies under the lower edge of the first-named structure. In the larynx we find the *vocal cords* (Fig. 1, 7), which, by their vibrations, produce voice; and the *ventricles*, or pockets (Fig. 1, 6 6), of the organ of voice are shown on each side and above the cords. The upper edges of these ventricles were formerly called "false vocal cords." The muscles which move the vocal cords and the larynx form an intricate series. Some of these muscles are

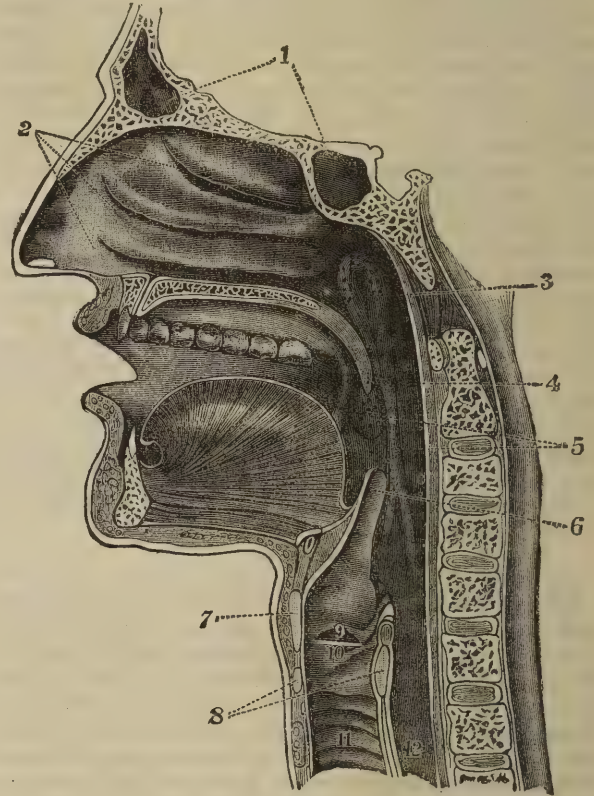


Fig. 2.

figured at 8, 9, and 10 in Fig. 1. The mouth and throat parts seen in Fig. 2 include the *pharynx*, or back part of the mouth, the nose cavities (2); the eustachian tube, leading to the ear (3), the uvula (4), the larynx (7, 8), epiglottis (6); whilst the vocal cords (10) and the space or ventricle (9) are also shown. The windpipe is figured at 11 and the gullet at 12. Mr. Holmes, in speaking of the development of the larynx, says that a great and rapid increase is undergone by this organ in size at the fifteenth year of life. In the male, "the voice then 'breaks,' and descends in pitch by nearly an octave. The same phenomena occur in females, but not to a marked extent, and the depression of vocal pitch is only about a tone or two." The cracked voice and "piping tones" of old age are similarly due to the degenerative changes which occur in the organ of voice.

By aid of an instrument called the "laryngoscope" we have been enabled to see many of the actions which are involved in the production of voice. Seen during quiet breathing, the larynx presents the appearance figured in our third illustration. The vocal cords (3, 3) are plainly shown, the epiglottis (5) is also noted; the windpipe is seen (6); whilst the cartilages (1, 2) and ventricles (4) also



come into view. When we speak in a quiet or ordinary voice, the aspect of the larynx alters, as shown in Fig. 4; the vocal cords (3, 3) draw close together, so as to convert the opening into the windpipe into a mere slit; and, "as the sound issues forth, the eye can perceive that they are

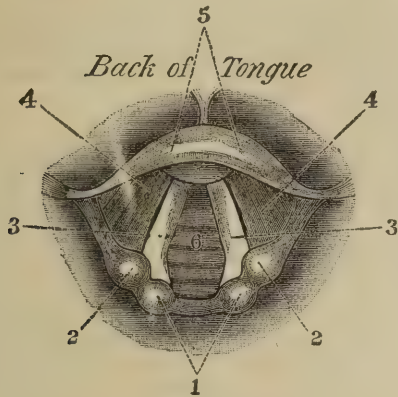


Fig. 3.

in a state of vibration." When we sound falsetto notes at the middle of the range, the appearance of the larynx is shown in Fig. 5. Here the aim of the movements seems to be that of shortening the glottis or opening of the wind-

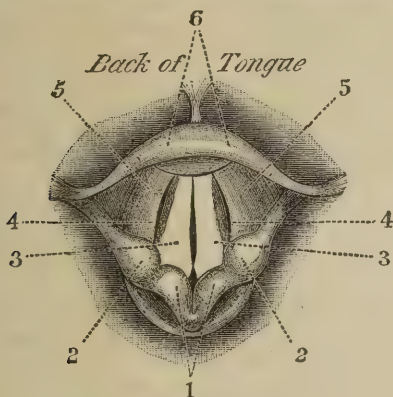


Fig. 4.

pipe, and to limit, as far as possible, the vibrating portion of the vocal cords.

The parts of Mr. Holmes' volume which will possess the highest interest for the general reader are those devoted to

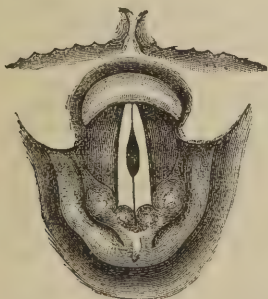


Fig. 5.

the general hygiene or health-treatment of the voice. He lays stress on the fact that the healthy voice can alone exist in the healthy body. For full details regarding the management of the voice and the treatment of its common

ailments we must refer the reader to Mr. Holmes's pages. But it is interesting to note here, that our author disapproves of the customary "glass of cold water" of the public speaker. He says the use of cold water in cases where the throat is dry and inflamed, only increases the mischief. The *eau sucrée* of the French, or tragacanth draughts are decidedly more efficacious. If water is taken during speaking or singing, Mr. Holmes says, it should not be colder than 60 deg. Fahr. Nothing iced is to be taken when the voice is being exercised. The white of egg, he adds, clogs the throat; but our author approves of glycerine lozenges. As a guide to the management of the voice, and to a knowledge of the curious mechanism through which voice is produced, we could not desire a better work than that before us. It is not the least admirable of the qualities of Mr. Holmes's book that it can be truly said to be highly entertaining, as well as thoroughly instructive.

RECENT MORTALITY IN EUROPEAN CAPITALS.—M. Motteroz, of the Bureau of Statistics, Paris, France, gives some interesting comparisons, formed in reviewing the mortality returns of the capitals of Europe for the first quarter of the present year. London, with its population of nearly 4,000,000 of inhabitants, shows the smallest death-rate—22.1 per 1,000 annually; and this although three epidemic diseases—measles, scarlet fever, and whooping-cough—occasioned a very considerable number of deaths during the period. St. Petersburg, on the other hand, gives the highest mortality—40.6 per 1,000 of its inhabitants yearly. Typhoid fever and diphtheria prevailed in this city with great intensity. Berlin gives a mortality rate equal to 24.3 per 1,000 per annum. During the three months under review croup caused 663 deaths in its population of 1,200,000. The rate of Brussels was 25.7, of Paris 27.3, of Stockholm 27.8, of Vienna 31.1, and of Madrid 36.4. The mortality in this last capital is always high. Measles alone was the cause of 402 deaths during the quarter, and this is regarded as an enormous mortality for a population of 400,000 inhabitants.

TROPIC FRUIT LAXATIVE.—Adam Conrath gives the following approximative formula for the preparation sold under the name of "Tropic Fruit Laxative": Jalap tubers, powdered; senna leaves; sugar, of each five parts; pulp of East India tamarinds (of the consistence of a stiff extract), thirty parts. Having rolled out the mass with a rolling-pin to a thickness of one-fourth of an inch, it is to be cut with a tin mould to a size of one inch long by seven-tenths of an inch wide, to weigh forty to forty-five grains. The lozenges should be coated by a confectioner with chocolate and sugar, after which each one may be wrapped in thin tin-foil. Mr. Conrath says that the objection to dispensing this form of a confection of senna is the liability of the laxative portion to become worm-eaten, in which case, those who do not first remove the chocolate and examine the central mass are apt to swallow worms and all.

NEW INVISIBLE INK.—C. Widemann communicates a new method of making an invisible ink to *Die Natur*. To make the writing or the drawing appear which has been made upon paper with the ink, it is sufficient to dip it into water. On drying, the traces disappear again, and re-appear by each succeeding immersion. The ink is made by intimately mixing linseed oil, 1 part; water of ammonia, 20 parts; water, 100 parts. The mixture must be agitated each time before the pen is dipped into it, as a little of the oil may separate and float on top, which would, of course, leave an oily stain upon the paper.



## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTER TO THE EDITOR.

### UNEQUAL VISION.

SIR,—I have this day had one of the most curious cases before my notice that I have seen of unequal vision.

About two months since, a lady, aged about 55 years, came to me with a prescription from Dr. Mackinlay to have a pair of spectacles made with very unequal lenses in the two eyes. She had been suffering from gout in one eye, and this eye required the strongest lens. When she called upon me to-day, she told me that the attacks of gout had not left her, but they were less frequent and less severe; but now her spectacles seemed to hurt her eyes whenever she used them, and so she thought it desirable to come to me about them. I found, to my surprise, on testing her eyes with the optometer, that both eyes were of the same focus, and that spectacles with a pair of lenses of equal focus, but of a lower power, such as were suitable for the healthy eye only two years since, now suited her admirably for both eyes.—Yours truly,

63, Strand, W.C.

JOHN BROWNING.

## QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending HEALTH to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.]

We must also request correspondents who write enclosing stamps for copies of HEALTH, to address their inquiries to the Publisher, and not to the Editor.]

### GENERAL.

A. C. N.—Yes; in present number.

G. CROAL.—We should not advise you to put yourself in the hands of any such person. The "electrical" (?) appliances mentioned are not "electrical" in any sense. They are shams and snares.

C. B.—We will make inquiries, and let you know.

FANNY WILLIAMS.—You grow amusing; but pray save yourself the trouble of writing us again—unless, indeed, you choose to alter the tone of your communications. You appear to have adopted the rôle of universal critic. "Unconscious delirium," "hypodermic inflation," "faith-healing," &c., of course you know all about. But when people fall to abusing those who differ from them in opinion, the value of the criticism becomes considerably impaired. Henceforth, we have no reply for you; and, metaphorically, we beg to raise our hat, and to pass on.

### SANITARY.

G. HUNTER.—Try "Sanitas" oil and one of the vaporisers. The fumigation should be completely carried out.

E. NOBLE.—Of the two, we prefer the former.

A. SMITH C.—From 30 to 40, we believe.

R. G.—Your better plan is to send the filter to the Silicated Carbon Co., Battersea, London, who will refit it, and place it in proper working order for you.

### MEDICAL.

[We beg to repeat our request for full details (including names and addresses, which shall be held private), pamphlets, &c., from any of our readers who have suffered from quacks. We intend shortly to enter upon an exposure of these persons and their nefarious ways.]

DON JUAN.—1. Consult Brudenell Carter's "Eyesight, Good and Bad," published by Macmillan & Co.; but we should recommend you to consult Mr. Browning, optician, 63, Strand, London, who will advise you by letter, or personally, regarding the best spectacles for preserving your sight. 2. Yes; alcohol and smoking would account for your symptoms. Remember tobacco affects the eyes in certain cases. Give up all stimulants, and cease smoking for a time, and give your eyes rest.

JOHN SMITH.—As to the deafness, we cannot advise you without knowing the cause. Regarding your other inquiry, the affection you name is not necessarily a disease, but in many a sign of robust health. See advice to "Bon Ami" in No. 16 of HEALTH.

GORDON.—Apparently there are two "Gordons." Your reply will probably be found in HEALTH No. 17. If not, re-state your case, please. All letters are destroyed after being noticed here.

UN MISÉRABLE.—Depends entirely on your general health, which carefully attend to. A few years should, with care and present treatment by iodide of potass (two drachms in six ounces infusion of calumba, and a dessertspoonful taken thrice daily) effect a cure. Use glycerine of borax as a dressing for the part affected. Avoid stimulants. Tobacco immaterial. There is no need for you to consult technical works, which you probably would not understand. Consult a good surgeon if our advice does not suit you, and have confidence in him, and above all, don't be morbid. Glad to be of any further service to you.

LINA.—Yes; a change to the sea, if not too bracing, would do you good. In a case like yours, we should feel inclined to advise application of electricity (e.g., by one of Pulvermacher's chains) to the forehead. Write again if unimproved.

F. D. C.—You should see a surgeon. You do not mention any cause for your symptoms, but from what you say we should advise you to inject Condyl's Fluid (one part to, say, ten or so of water) frequently. Use also an aperient (e.g. Victoria Ofner Bitter Water).

LEX.—We do not know the composition of the "restorer" you name, and so can say nothing about it. We do not for a moment think there is the slightest connection between the use of the dye and the kidney affection. No, fruit will do you no harm. The American remedy we do not know—all such preparations are used in ignorance of their effects, and we do not advise their use when medicines can be prescribed whose action is known. Why not apply at a hospital and have a thorough examination of all your symptoms? There appears to be a complication of troubles, and our best advice in your case is, see a good physician at once.

R. GLOVER.—Attend to your general health. A course of cod-liver oil and iron should do you good. For the head-trouble use Carbulated Vaseline. Syringe the nose with Condyl's Fluid and water thrice daily. If you could spend some time by the sea it would benefit you greatly. You have a constitutional trouble, for which the sea and the cod oil are remedies.

B. W. L.—Why not seek advice at any of the Throat and Ear Hospitals, of which there is no lack in London? It should be quite a simple thing to put your ailment right. There may be some chronic inflammation left, but you will get good advice therefor at a Hospital. Ear-surgery is nowadays in a highly perfect state. Write again if you fail in your quest.

SUFFERER.—Try inhalations (by the nose) of the steam of creosote—say 10 or 12 drops placed in an inhaler in boiling water. Have you taken cod-liver oil and iron? If not, do so. The nose-trouble will benefit much from such general treatment. If it continues, there may be some affection of the nasal bones, for which see a surgeon.

GORDON.—The disease (ozæna) is quite a familiar one. Its treatment is admittedly as much a matter of constitutional nature as of local nature. You were properly prescribed for. Cod-oil and iron should have done you good; but our earnest advice to you is to try a change to a bracing sea air—Scarborough or Whitby are near you; we have seen cases like yours get well by the sea when all other means have failed. Use Condyl's Fluid and water as an injection locally; continue the cod oil, and visit the sea. Don't spend your money in "quack remedies," which can do you no good. Rather



spend a little in trying the sea. The person you mention is a quack. "The Family Physician" is published by Cassell & Co., Ludgate-hill.

CHAÏBA.—The brush you name is, in our opinion, distinguished by no properties of electrical kind. It deflects a magnet, but can give little or no electrical effect, and derives its magnetic power from pieces of steel enclosed in the back. Our electrical articles begin in the present number, Mr. Carpenter's first appearing next week. There is, as you say, an immense deal of ignorance abroad respecting electrical appliances.

JUVENIS (Lyndhurst).—For the enlarged veins, avoid standing as much as possible; wear an elastic stocking; sleep with the feet on a pillow, so as to favour the blood's return; and give up your exercise for a time.

IGNORUS.—We never recommend practitioners by name in HEALTH. Send us your name and address. The case you describe is decidedly one for the best advice you can get.

T. S.—From your account of yourself, we think you are a highly nervous subject, and our advice to you is to seek a change, to live well, have cheerful society, and to grow out of your morbid fears. "Victoria Ofner Bitter Water" is a good aperient; but we advise you to try a vegetarian dietary for a time.

MUSCLE.—As you are under medical treatment, we cannot presume to advise you; but we may say that we regard the advice given above to "T. S.," regarding a change of scene and air, as suited to your case. You should not become morbid, as there is apparently no reason for your fears.

A READER (will please use, in future, a more distinctive name).—There are some remedies for excessive sweating which we shall shortly publish in HEALTH. Meanwhile, wash your feet with alum and water. Is your general health good? Frequently, excessive sweating is only a symptom of a case requiring tonics and a change of air.

E. ANDREWS.—No; we do not think there is any gout tendency in the case. Try the following:—Citrate of iron and quinine, a drachm and a-half; carbonate of ammonia, two drachms; tincture of orange-peel two ounces, and water to make up a six-ounce mixture. A dessert-spoonful thrice daily. Try "Æsculap" Water as a mild aperient.

CANTATA.—Don't get low-spirited, and, in future, go to a qualified doctor, and not to any person who is not competent to treat disease. Try the injection recommended to "F. D. C." above. See to your general health. A change of air and rest would probably cure you. Try also *Fer Bravais* or Wyeth's Dialysed Iron as a tonic.

C. BOBBLEGIT.—We certainly think you might, with advantage, give Droitwich a trial. There have been several cases brought under our notice in which the baths have done much good. Your age is against you, of course, somewhat; but you seem to have good stamina, and we are inclined to agree with you in saying, "*Nil desperandum*."

E. WHEELER.—These tooth complaints are often hereditary, and in your case this remark would seem to hold good. Consult a good dentist, who will be able to ascertain, by examination, the most fitting remedies.

JUVENIS (Liverpool).—Send us a full statement of all your symptoms, food, habits, &c. Your case is certainly a peculiar one. Have you ever been troubled with worms?

W. BROWN.—A filthy quack, and one of a gang which was exposed years ago in "Revelations of Quacks and Quackery," published by Ballière, Tindall, and Cox, London. As you value health (and purse) do not go near the quack fraternity, some of whose doings we shall shortly expose. The "Professor" is also a quack. Please send us any further particulars you may have regarding these leeches.

CANTON.—Glad to hear our advice has been agreeable. We can only reply to you that (1) the step you purpose taking at a future date is quite honourable in every way. You need have no fears for your happiness; so get rid of all your morbid feelings, enjoy your present happiness, and live in anticipation of a bright future. Pay no attention to quacks, as you value health and happiness. The pamphlet you send is from one of the most notorious of the fraternity. You are in perfect health, and don't allow any one to persuade you differently.

VOLUNTEER.—We have seen the quack's name in your local paper. Glad to have your letter. You heard the usual story from him, and we hope you have learned to avoid these pests of society for the future.

PRÊT D'ACCOMPLIR.—We fancy the tonic recommended to "Bon Ami" in No. 16 HEALTH is that best suited for you. A pleasant holiday to you. Don't overdo exercise.

HENRY JONES.—You suffer from no disease. The occurrence you mention is usual in most healthy persons of your age. Don't grow morbid. Take active open-air exercise, and, above all, avoid

quacks, who are sure to endeavour to persuade you that you are seriously ill. Take no medicine, but attend to your health; live regularly, avoid drinking fluids late at night, and sleep on a hard mattress.

SLEEPLESS.—Try the effect of 15 grains of bromide of potass, or bromide of sodium, taken in a little water on going to bed. Try this for a few nights, and it may do away with the affection of which you complain. Don't eat late at night, take moderate exercise, and a warm bath at night occasionally. Write again if the above does not suffice.

CANADA.—1. The climate would not itself make any difference to the heart affection. Some parts, the west especially, are very mild, and with easy work would suit you as well as this country. 2. It may be hereditary; but each case requires judging on its own merits. Much may, in any case, be done by careful treatment.

B. BRILL.—Read our papers on the "Hair," in recent numbers of HEALTH. There are several excellent stimulating lotions given therein. Attend to your general health.

G. F. P.—The black specks you can press out of the face are not parasites. They consist of dust which has got engrained in matter that blocks up the sebaceous glands of the skin (see our Skin articles in HEALTH, Nos. 2 and 3). You will find the remedies for your affection in HEALTH, page 167. You should pay attention to the cleanliness of the skin, avoiding chills, and using a good soap (e.g., Pears') with lukewarm water night and morning.

POOR BARLOW.—1. You suffer apparently from a form of bronchitis. Try the effect of cold bathing to the chest in the morning, and friction with a hard towel thereafter. Try also inhalation of steam with ten drops of creosote in the water twice a day. A little cod-liver oil and iron would also benefit you. 2. Yes; it is not wise to sleep in the same room with a person in rapid consumption.

TIMMS.—We are making inquiries on your behalf.

BOB.—Probably due to a nervous action or muscular spasm. Are you in weak health? Try a tonic of any kind (e.g., quinine and iron, or Fellows' Syrup), and if that fails, have electricity cautiously applied. The affection will possibly indicate when you are out of sorts by its return.

E. SYMES.—See reply to "G. F. P." in present number.

W. P.—See reply to "Bon Ami" in HEALTH, No. 16, and to "G. F. P." in present number.

OCULAR.—Consult Mr. John Browning, 63, Strand, London, about your eyes. If not able to visit him, send full description of your wants. We should advise you not to delay in having a pair of suitable spectacles. Give your eyes complete rest at night for a time.

HEALTH.—You must have a freer atmosphere, and take more open-air exercise. Attend to your skin strictly, washing the face morning and night with lukewarm water, and use a little Vaseline to the face at night.

PICKARD.—We believe a person of that name is registered as a medical practitioner, but our opinion of his pamphlet is not a high one.

PALETTE-KNIFE.—Your trouble arises from your lead-poisoning. When you recover from that, your symptoms will disappear. For the lead-poisoning, try a desert-spoonful, thrice daily, of a mixture consisting of two drachms iodide of potass in six ounces infusion of calumba.

EDMUND.—Your queries are somewhat numerous. 1. About fifteen or sixteen years of age. 2. As a rule, the hair sympathises with the constitution. 3. Abnormality in the development. Physiological reasons, difficult to discuss. 4. Yes; cocoa is a nutritious beverage. 5. Certainly; a little mild out-door exercise will do you good. 6. Lumbago is not a "dangerous" disease. Use a liniment, warmth, flannel-binder, and occasional hot salt-baths.

ALFRED.—1. See our papers on the "Hair," wherein dyes are mentioned. 2. We prefer "Æsculap" mineral water or "Victoria Ofner Bitter Water"—both are good aperients. The latter is preferable in liver-complaints. You might try what a course of vegetarian dietary would do for you. Write for a book of dishes, enclosing two stamps, to Mr. Doremus, 30, Rochester-road, London, N.W.

PHINEAS REDUX.—The best apparatus we know is that in use at the Zander Institute, Soho Square, London (see HEALTH, p. 95, for illustration). Piano-playing might help you; but proper exercise for the wrists can be had at any gymnasium. Careful exercise in turning the handles of a machine with graduated weights would suit you.

PILL.—The gentleman you name is a duly-qualified practitioner. Try an injection of Condy's Fluid and water (one part to fifteen of water); if that does no good, consult a surgeon, who will be able to say whether any operative treatment be necessary.

EXCELSIOR.—(1) For tapeworm, put the patient on a fluid diet (beef-tea, &c.) then give castor oil the night previously to giving the extract of male fern. This is to be given in the morning, and



may be followed, six hours thereafter or so, with another dose of castor oil. The head of the worm (see HEALTH No. 16, page 254) must be expelled if the cure is to be complete. The following is the prescription for the male fern. Extract of the male fern (liquid) 30 minims; powder of gum acacia, 1 drachm; peppermint water, 1 ounce; make an emulsion and give as ordered. 2. Hot salt baths, and attention to general health. Electricity (see that you get it, and avoid quack appliances) may be found useful.

**MACRINUS.**—We think a visit to Harrogate might benefit you; but for the glandular troubles, the sea would be preferable. For the digestive troubles, we would recommend a complete change to vegetable diet, as that course is often highly successful. Smoking, not excessive, will do you no harm, we fancy. Your best physic, in our opinion, is a thorough change.

**A. B.**—Would Malvern suit you, or Leamington? See description in our "Health Resorts." Southport would not be too bracing as a seaside resort.

**T. M. A.**—You are evidently constitutionally nervous. For the dreaming, stop your tea-dinner—take dinner alone at five; then a little light supper about nine or so. Dreaming may be caused by want of food, as well as by erroneous feeding. You study too much, we think, and, after your day's work, the night-work sets your brain powers in action too freely. Give up your studies for a time; take open-air exercise; and see that your bedroom is well ventilated.

**TRICYCLE.**—We do not think your affection would be made worse by the tricycling; but in any case, you should certainly be very careful and moderate in the exercise.

**LEDDOX.**—Try Victoria Ofner Bitter Water, and a vegetable dietary; eat plenty of fruit, &c. For the parasites, use an injection of salt and water, and eat plenty of salt with your food.

**E. T.—T.**—We should strongly advise you to see an ordinary surgeon, who will advise you in your simple trouble quite as well as the person you name, and certainly at a much more reasonable fee. A "truss" is not required in your complaint; only a support, which should be had for a few shillings. Your letter gives us the idea that your troubles have been grossly exaggerated.

**IOLEA.**—We give the general characters, as these have been determined by medical experience. Allowance must be made for differences in constitutions. At Southport, we have personally found the air bracing and invigorating, but not over so. Again, you must make allowance for difference in seasons—"seasonal variations" certainly affect the air, &c., of localities.

### NOTICES.

Just published, Part 3 (containing the July numbers), price 10d., postage 2d. Part 1, including Nos. 1 to 7 (April and May), price 1s. 4d.; post-free, 1s. 8d.; and Part 2 (June), price 1s., are still to be had.

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**HEALTH** is also published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra. P. O. Orders and cheques should be made payable to the Publishers, **MESSES. WYMAN & SOXS**, London, at the High Holborn District Post-office.

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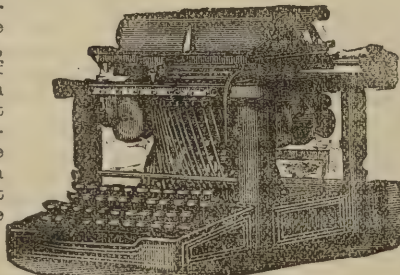


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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, AUGUST 17, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

SOME time ago we called attention to the gratifying fact that the Lords of the Committee of Council on Education had added "Hygiene," or "The Science of Health," to the subjects included in the Science and Art Department's list of examinations. A syllabus of the subject has just been issued. That Government is determined to do its duty by the people in encouraging the study of the laws of healthy living is evident from the wide range of topics this syllabus includes.

\* \* \*

THREE stages will be open to the candidate at the Science and Art Examination in hygiene. These examinations are held in all our large towns in May of each year. The first stage is devoted to an examination on elementary principles of health-science. Herein are included the topics of food, diet and cooking, water and beverages, air, removal of waste and impurities, shelter and warming, local conditions, personal hygiene, treatment of slight wounds and accidents. The advanced stage of examination deals with food and its adulteration, water and beverages, examination of air, chemical and microscopical, removal of waste and impurities, shelter and warming, local conditions, personal hygiene, prevention of disease.

\* \* \*

THE third stage is that of "honours," and is necessarily of more complex character than the "advanced" grade. All the topics enumerated in the foregoing stages are included in the "honours" grade, and, in addition, questions may be set on trades' nuisances, vital statistics, and sanitary law. If we were inclined to make any comment on the syllabus thus issued, we should say that a knowledge of trades' nuisances and sanitary law should be included amongst the "advanced" stage subjects. These topics are, of all others, most important in the practice of sanitary inspectors, who, whilst aiming at the "honours" stage, may perchance require, in many cases, to be content with the "advanced" certificate. If the Department would place the "chemical and microscopical work" in the "honours" grade, we should regard the distribution of topics as more likely to please the can-

didates who will present themselves for examination. Many an efficient sanitary inspector will not profess a knowledge of microscopy—a subject demanding a highly special training; while every educated inspector will certainly aim at knowing something of "trades' nuisances" and "sanitary law." As the syllabus stands, it appears to us that the advanced stage is slightly more difficult than the "honours." We hope the Association of Sanitary Inspectors and others will review the syllabus and favour the Government with their views thereon.

\* \* \*

A HINT to corporations, town councils, and local authorities at large. When the post of sanitary inspector falls vacant in the future, it is to be hoped that the authorities will make it perfectly clear that they intend to insist on candidates possessing a certificate of the Science and Art Department in "hygiene." Such a qualification will be the safest guarantee that a candidate knows the duties of the post he covets. It may also be added that it is to be desired that those who appoint inspectors will take into consideration that educated men, trained as health-supervisors, demand and require much better pay than is usually attached to such posts. A careful health-inspector is really a valuable public servant, and should be well treated by his employers.

\* \* \*

A PADDLE-STEAMER, bearing the appropriate name of the *Red Cross*, was launched last week at Millwall, as an ambulance small-pox vessel. The steamer, which is the property of the Metropolitan Asylums Board, is 104 feet long by 16 feet 6 inches in breadth, and 6 feet deep, and contains eighteen ambulance berths. The total cost was £4,500, a singularly moderate price considering that this includes every article of furniture necessary for the functions of the vessel. The vessel is to take part in the duty of isolating infected patients from the healthy—the great principle which underlies the entire treatment of epidemic diseases. We have long "ruled the waves" in a political sense. It is no less a national triumph if our sea-going qualities may, in a minor way, be thus enlisted in the fight against disease.

\* \* \*

THERE has been a talk of the danger of imported rags as a source of cholera-infection. Kidderminster, it seems, desires that "Eastern carpets" be disinfected, in addition to Eastern rags. All rags from the East are duly disinfected by Government order. The Kidderminster grumble is its own justification. Manufactured carpets are as likely to carry cholera-germs as rags, coming as do the former from the Eastern bazaars, where cleanliness is unknown.

\* \* \*

AN interesting observation just made by Dr. J. H. Bennet, of Mentone, is likely to prove of extreme interest to those persons who, unlike *Captain Corcoran*, in "*H.M.S. Pinafore*," are always sick at sea. Dr. Bennet, himself "a wretched sailor," lays great stress on the utility of strong black coffee, swallowed just before embarking on the waves. The coffee should be taken about an hour before sailing if without sugar, or say two hours and a-half if with milk. The coffee is, further, to be taken on an empty stomach—that organ is to have nothing else to do but to absorb the coffee. Again, the coffee is to be pure, and to have no chicory—to obtain which, it seems to us, we shall have to grind our own coffee-beans. Dr. Bennet says that an ounce and a half of pure coffee should be



infused in about four ounces of boiling water for ten minutes in a warmed jug. The fluid is then to be "poured off, and drunk with sugar as *café noir*, an hour before leaving; or as *café au lait* (with milk), two hours and a-half before."

+ + +

WE have had considerable experience of sea-sickness (fortunately, in others); and we must confess that until reading Dr. Bennet's article, we had voted coffee useless in preventing the great enemy of those who, like Lord Dundreary, wish that if Britannia "rules" the waves, it is eminently desirable she should "rule" them straight. Our experiments with black coffee have, however, always been made with the coffee unsugared, and we have not, as Dr. Bennet recommends, made our coffee at home, and put it into a bottle for travelling "to avoid chicory or English wish-wash." The ideas of Dr. Bennet are worth renewed experimentation; and we therefore trust that those of our readers who may have the opportunity of putting the advice just given to the test, will not fail to do so.

+ + +

STRONG tea, brandy, or wine, swallowed like the coffee on an empty stomach, prior to sailing, as directed, might, adds Dr. Bennet, have a similar effect. A naval surgeon adds a piece of valuable advice, in the shape of the recommendation to swallow half-a-tumblerful of lukewarm water when the sea-sickness begins. This is easily thrown up (no light result, by any means), and "by-and-bye calm comes." It is not said whether the "calm" in question is that of the patient or of the sea. Presuming it is the calm of the patient, the hot-water treatment is likewise worthy a trial.

+ + +

HEALTH reformers, including those bakers who are anxious to keep pace with the times, certainly desire to see underground bakehouses abolished. It would seem, however, that the days of these underground cellars are not yet numbered. Injurious alike to the bakers employed, and to the "staff of life" prepared therein, these damp workshops are singularly liable to contamination from soil-refuse and drainage matter. It is a matter of regret that the law, as it at present exists, does not compel all bakehouses to be built above ground, and to be well aired and removed from all sources of drainage nuisance. In the new Bill which has passed the Lords, all new bakehouses are to be built so that one-half at least shall be above the level of the ground. This proviso is not without its objections, and technical difficulties might interfere with the building of a suitable place. It would be much more to the purpose if every bakehouse were built on the ground level, as an ordinary above-ground workshop. Sanitary requirements, as well as the health of the trade, will in time insist on this reasonable item being observed in the construction of these places.

+ + +

THE *Lancet* of last week contains a most interesting series of letters regarding Hagar's Well at Mecca. The water of this well is holy in the eyes of all Mohamedans. When we learn that this water, according to Dr. Frankland's analysis, contains "nearly six times as much animal matter as is found in the same volume of strong London sewage," and that its water filters "through an overlying mass of pollution," it is easy to conceive why cholera should spread with fatal rapidity at Mecca when that disease appears amongst the pilgrim population of the city.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### ELECTRICAL APPLIANCES AND THEIR EMPLOYMENT AS AIDS TO HEALTH.

BY WM. LANT CARPENTER, B.A., B.Sc., &c.

FIRST PAPER.

THE relations between electrical and nervous "energy," or the work of the nerves, are very various, exceedingly subtle, and naturally possess an important bearing upon health. The first observation on the subject of the influence of electric currents upon nervous and muscular acts was made by Swammerdam, in 1678, and it has of late years been shown that the power of contracting under the influence of an electrical current appears to be a distinguishing property of *protoplasm* wherever this living matter occurs, whether in animals, as in the structureless *Amoeba*, or in plants. In the higher animals, each of the senses can be stimulated into activity by the electrical current under certain conditions, and although man possesses no special "electrical sense," it is quite possible to conceive a creature endowed with one. What such a being would be conscious of, has been somewhat fancifully, yet eloquently, described elsewhere by Professor Fleeming Jenkin.\* Not only are nerves and muscles capable of electrical stimulation, but the process is a reversible one, just as almost every other electrical change is—i.e., the contraction of muscles produces currents, and Professor Dewar has shown that the stimulus of light on the retina, or nervous network of the eye, excites an electric current in the optic nerve.

The purpose of the present series of articles, however, is not to discuss these physiological actions of electricity, but simply to point out to the readers of *HEALTH* the characteristics of the various modes of producing electricity for its administration and application to the human subject, irrespective of the particular purposes for which it may be applied, and the special diseases which it is hoped to alleviate. The element of "faith," we ought at the outset to say, enters very largely into many cases of alleged cure by electrical appliances, which would have been equally alleviated by any other harmless piece of apparatus in which the patient had sufficient confidence. Hence it may be well to repeat here the editorial warning given last week against the numerous quack "magnetic" and "galvanic" appliances, which are simply produced as a means of gain, which deceive the unwary, and are frequently absolutely inefficient. The intending purchaser of any curative electrical apparatus who is without special knowledge would do well, before parting with his money, to consult some scientific friend, or to insist on certain electrical tests (to be hereafter given) being applied to the instruments. Some hints in this direction will be given in the succeeding articles of this series.

The employment of what is usually known as *Frictional electricity* (or the energy produced in the ordinary electrical machine) for physiological purposes, is comparatively rare, and should only be resorted to under medical advice. Very serious mischief may be done by an incautious use of this powerful agent, owing to its enormous electro-motive force—or, to use the analogy often borrowed

\* S.P.C.K. Manuals of Elementary Science, "Electricity," pp. 51-53.



from water or steam-power, its very "high pressure." This enables it to pass readily through the very high resistance offered by the outer skin of the human body. Its passage is practically instantaneous, and partakes of the nature of a severe blow or shock. There is nothing in it analogous to the gentle flow of a current, and it arises from the rapid rushing together of the two opposite kinds of electricity (to use the ordinary phraseology) which had been previously separated in different parts of the apparatus employed. This apparatus is usually a Leyden jar, which is "charged" with electricity by means of some form of an electrical machine, in which plates (or cylinders) of glass or ebonite are made to revolve rapidly. The two kinds of electricity are thus stored on the inner and outer surfaces of the glass-jar (not in the metallic coatings, as is generally supposed), and when these two surfaces are connected by chains or otherwise, with different parts of the human body, the discharge takes place through it suddenly and instantaneously.

In the milder form of *current electricity*, whose electro-motive force, or pressure, is *very much* lower than in the case just considered, valuable remedial effects are often to be found, especially if the application be long continued and often repeated. It may be noted here that it is not by any means necessary that the current should be strong enough to produce a sensation approaching discomfort, or even, perhaps, any sensation at all, for it to be an efficient remedy in certain classes of cases. For this form of electricity, viz., the constant and continuous current, probably some form of the voltaic battery is the most suitable, in which electrical energy is produced by purely chemical means. The *quantity* of electricity produced in a single cell of this is immeasurably greater than in a very large electrical machine; but, on the other hand, its electro-motive force, electric pressure, or power to overcome resistance (that of the human tissues in this case) is infinitely less. This electric pressure or tension may be augmented by increasing the number of the cells employed, provided that they are coupled in "series"—i.e., the zinc of one to the copper (or other pole) of the next, and so on. It is desirable to use for such purposes some form of battery which is tolerably constant in its action, not liable to be weakened by standing or disuse, and not needing much attention. These requirements are met by the sets of small Leclanché batteries specially made for medical purposes at Silvertown, and other great telegraph works. They are very portable, last without attention for many months, and are provided with a handle, the simple turning of which puts a greater or less number of cells into circuit, as may be desired. Another useful form is to be found in the small Secondary batteries, or "accumulators," of M. Gaston Planté, which are specially made in France for medical and surgical purposes. Whenever "current electricity" in any form is employed, care should be taken that there is good contact between the person and the ends, or "poles," of the battery. This is best done by connecting them with large metal plates in contact with the previously moistened skin, or in some cases by a wet sponge held in the open end of a metal cylinder, and applied to the surface of the body. The skin, when dry, is practically an insulator, and allows little or no electricity to pass through.

A very convenient form of producing and using the continuous current for some purposes is afforded by the *belts and chains* manufactured by Mr. Pulvermacher, whose apparatus has so long and effectually been employed by leading physicians in the application of electricity to the cure of disease. In these instruments, most of which are intended to be worn upon the person, and are really

a form of portable battery, the exciting liquid is usually vinegar, which is held by capillary attraction between the links of a sort of wire chain of two metals, zinc and gilt copper. The warmth of the body (and possibly also the exudations from the skin), no doubt assists the action to a considerable extent, but their special efficiency depends upon a remarkable and little-known phenomenon, to be described in a future article. The apparatus of which these chains are good examples, are thus scientifically effective—a remark which unfortunately does not apply to many of the quack appliances, such as the "magnetic and galvanic belts," &c., before alluded to.

The mode of producing that form of electrical energy known as the induced and intermittent current remains to be considered. These currents may be obtained by one of two methods, the instruments producing them being commonly known as (1) the *induction coil*, or, simply a *coil*, and (2) a *magneto-electric machine*, both of which, in their smaller sizes, are familiar objects in opticians' shops. The *induction coil* depends for its action upon the fact that if two parallel wires, separated and insulated from each other, be laid side by side, either straight, or more conveniently, one coiled inside the other, and one be connected with a battery, at the instant that the current begins to flow along it, and also at the instant that it ceases to flow, momentary currents of high tension are induced in the second wire. The second current is in the *reverse direction* to the first, and if it is required that these successive currents shall be all in one direction, a special arrangement of the apparatus is necessary. As these induced currents only are developed in the secondary wire when contact is made and broken between the primary wire and the battery, a special "current interrupter," or contact-breaker, is needed.

The induced currents in the *magneto-electric machine* are of very much the same character as regards their intermittence, their alternation in direction, and their high tension. Both kinds produce acute sensations akin to severe pricking, or even shocks. This machine does not require the use even of a single cell of a battery, as the induction coil does. It depends for its action upon Faraday's great discovery, which is at the basis of all the dynamo-machines and other industrial developments of electricity of the present day, viz., that when a wire capable of conducting electricity is rapidly moved in the neighbourhood of a magnet, a current of electricity is induced in the wire. This is applied in the medical magneto-electric machines, by causing coils of wire to rotate rapidly in front of the poles of a horse-shoe magnet, and whether such machines, or induction coils, be employed for producing induced and intermittent currents of moderately high tension, is a mere matter of convenience, since the characteristics of both currents are the same.

To sum up, we have the following different modes of developing electricity for remedial purposes:—

(1) Electricity of enormously high tension or pressure, developed, broadly speaking, by friction, applied through a Leyden jar, and to be used with the utmost caution, its effects being instantaneous.

(2) Current electricity, of lower tension or pressure, but continuous in its action, and developed by chemical action in voltaic or in secondary batteries, chains, &c.

(3) Induced currents, of a tension or pressure intermediate between the two last, though approaching nearer to 1 than to 2, intermittent, and usually in alternate directions, and produced either (a) by one or two cells of a battery and an induction coil, or (b) by a magneto-electric machine, through the rotation of coils of wire in front of the poles of a magnet.



## MIRACLE CURES AND THEIR EXPLANATION.

BY DR. ANDREW WILKS, F.R.S.E.

## THIRD PAPER.

THE "miracle cures" have been described by a believer therein, Mr. Clarke (S. J.) having given an account of these events in the *Nineteenth Century* for November, 1882, in a paper entitled "Modern Miracles." One of these cases cited by Dr. Wilks is that of a woman from Louvain, who had been paralysed on the left side for seventeen months, and exhibited all the symptoms already described as those of "half-sensitiveness." "Whilst praying in front of the grotto, all at once she cried out, 'Sister Pauline, my fingers are moving.' A few minutes after a sharp pain pierces her arm and side, and she feels that she is cured. The same afternoon she appeared before the Commission appointed to examine alleged miracles, and in the presence of two physicians walks, runs, carries heavy objects about with her left hand, sees perfectly with her left eye, and hears perfectly well with her left ear." It is to be hoped that the Commission was perfectly familiar with the effects of metals on the affection which gave way to the "miracle-cure," and it would be interesting to learn if a cure by coins or by a sudden shock would have been deemed equally "miraculous" with that effected as the result of a strong mental emotion at the shrine of Lourdes.

Side by side with the incident just mentioned, let us place one of Dr. Wilks' own cases. Here a female teacher, hysterically inclined, had been ailing for two or three years. She "often lost the use of her limbs, or lost feeling in them." Her right side was destitute of sensibility when she was admitted to hospital, and the senses were, as usual, imperfect. Four sovereigns were next day tied round the leg, but without effect, and after repeated experiments, the patient remaining for seven months in hospital, no cure could apparently be effected. She was accordingly discharged in the same state as on admission. Some weeks thereafter she was again readmitted, on the earnest solicitation of her mother. Dr. Wilks then determined to follow his "own and well-tried method. This was to give her some moral discipline, and leave all medical treatment alone, as it so often perpetuates hysterical ailments. I ordered her nothing, and systematically passed by her bed, saying in her hearing that I could give no more trouble to her case whilst so many persons really ill required my attention. In fact, I neglected her for a purpose, when one day, after two or three weeks' time, I found her out of bed, sitting dressed in a chair at its side. I then spoke to her, and she told me that she could walk a little, and she thought she was regaining some feeling in the right side. I expressed my satisfaction at the turn her case had taken, and hoped she would now speedily get quite well. This she did not fail to do, as she daily grew stronger, and soon left the hospital quite well." Such a case is a striking commentary on the Lourdes "miracles," and on "faith-healing" at large. If this girl, who was cured simply by moral influence, had, through strong emotional stimulus, recovered her sensibility and power of movement in some religious exercise, her case would, undoubtedly, have figured as a "miracle cure" of the paralysed!

In Mrs. Oliphant's "Life of Edward Irving" there is a striking (Vol. II., Appendix A) example of a cure of an hysterical case which certainly corresponded to the "faith-healings" of modern times. The patient herself describes her case. In November, 1822, she was affected with what she terms "hip disease"; and in September, 1828, she

returned home "as unable to walk as when leaving." From this time no means of cure were used except "constant confinement to the couch." On October 20, 1830, the patient was visited by "a kind friend who had seen me about two months before," and who "had been led by God to pray earnestly for my recovery . . . . Sitting near me we talked of his relatives and of the death of his brother. . . . After asking some questions respecting the disease, he added, 'It is melancholy to see a person so constantly confined.' I answered, 'It is sent in mercy.' 'Do you think so? Do you think the same mercy could restore you?' God gave me faith, and I answered 'Yes' . . . . 'Then,' he added (after a few questions, between which 'he was evidently engaged in prayer') '*get up and walk to your family.*' He then had hold of my hand . . . . *I rose from my couch quite strong.* God took away all my pains and we walked down stairs.' . . . . Having been down a short time, finding my handkerchief left on the couch, taking the candle I fetched it. The next day I walked more than a quarter of a mile, and on Sunday from the Episcopal Jews' chapel, a distance of one mile and a quarter. . . . It is material to add that my legs, the flesh of which was loose and flabby, *feeling them in a short time after I walked down, were firm as those of a person in full health.* (There is an unconscious testimony in these words to the purely nervous and hysterical character of this person's affection. It is almost needless to add that had she been afflicted with true paralysis the muscles would have undergone serious structural change and wasting.) The back, which was curved, is now perfectly straight. (This feature is again a familiar hysterical one, and similar cases, erroneously called those of 'disease of the spine,' are reported from the recent 'faith-healing' experiments.) My collar-bones have been pronounced by a surgeon to be in quite a natural state, whereas one of them was before much enlarged."

The conclusions to which the impartial mind must be led, as a matter of science, regarding the nature of explanations of "miracle-cures" appear tolerably clear from an analysis of the cases detailed in these articles. We thus discover that such cases as have come under exact observation, are of the *hysterical type*—a phase of nervous action, the forms of which are legion, and in which the symptoms of almost every other affection may be accurately imitated. It is an easy matter for the uninitiated to assume that because a patient says he (or she) is afflicted with grave spinal disease that affection must really exist. But when we reflect on the subtle nature of hysterical affections, on their imitative tendencies, and on their long persistence, we cease to feel surprised that they are mistaken for diseases of incurable nature. The real truth is that they require, as often as not, only some strong mental stimulus to cause them to completely disappear. Even cases of assumed paralysis cured by "faith-healing," turn out, as we have seen, to be merely cases of a peculiar nervous affection, readily enough relieved by the mental impressions produced by contact with metals, with magnets, or even, as we have seen, with plain water or "dummy" magnets. "The remedies," says Dr. Wilks, speaking of "half-sensitiveness," have been ordinary medicines, *of every description*, the continued application of metals, of galvanism, of magnets, and sole-noids, the application of discs of wood and mustard plasters; also the use of the diaphon, the waters of Lourdes, charms, and simple neglect." In the idea of the influence of metals, Dr. Wilks has evidently no faith. A sovereign retained in the pocket of Albert Rose, he remarks, "had a more striking effect than the temporary application of gold to the skin or its administration in minute doses internally."



The closing words of Dr. Wilks's paper are worth quoting. Speaking of the arrest and sudden starting of brain-function, to which he conceives the paralysis we know as "half-sensitiveness" to be due, he says such action reminds him of a watch which a school-fellow possessed, and which was "the envy of all the other boys. It had this remarkable property, that when the owner took it from his pocket, although it might give the right time, it was found to have stopped. The sudden pulling it from his pocket had arrested its movements. He would then give it a sharp knock, and send it on again. The balance was in a state of unstable equilibrium, and was thus ready to stop or move on again under any jarring influence. The brains of these poor hysterical people seem in like manner to stop working on receiving a shock, whilst another shock will start them again."

It is only right to add the opinion that researches like those of Dr. Wilks, in addition to their high medical value, possess the important function of combating superstition, of dispelling illusion and quackery, and of vindicating "true religion and undefiled" from the charge of being the plaything of the credulous and the weak. The "faith-healing" and "miracle cures" of to-day are merely the names of the ignorant or fanatical for very ordinary and familiar methods of relief, allied to those whereby we cure an ordinary case of hysterics.\*

**FOOD ADULTERATION IN ANCIENT TIMES.**—In *Die Natur*, Dr. Erdmann has lately endeavoured to show that food-adulteration is not exclusively a modern evil, but dates back to the period of classical antiquity. The argument that certain admixtures are intended to improve the article experimented upon seems to have been employed in ancient times as well as now. The Campanian Semolina flour was adulterated with chalk, and this fact is commented upon by Pliny. A whitish clay seems also to have been used for the purpose. Gypsum was used in preparing the inferior African quality for sale as the better Italian description. This substance is also spoken of as having been employed in adulterating flour. Bakers seem to have been in the habit of using various reprehensible means of increasing their profits. Pliny remarks as to honey, that it would be one of the most noble gifts of nature if the deceit of men did not spoil and deteriorate it. Milk adulteration was, it appears, detected in a manner resembling to some extent a modern way of doing so. By dipping the finger in it and observing the mode in which the milk dropped, conclusions were drawn as to its purity. Spices were freely adulterated, it would seem, according to the testimony of Dioscorides, who records the fact that saffron was often mixed with powdered cinnabar or red-lead. Wine adulteration was carried on upon an important scale; some of the admixtures being, however, of a nature well known to the consumer, and being effected at his request. It is suggested by Dr. Erdmann that many other articles besides those enumerated must have been adulterated; but that scientific knowledge did not afford the same means it now does of detecting such frauds.

\* Warts probably disappear when "charmed" by a nervous influence propagated to the skin. We certainly know that there is a strong connexus betwixt the nervous system and skin-surfaces, and there seems but little mystery in the occult devices of the "wart-charmer" when we reflect on the cure of far more serious ailments by the "moral" means of "neglect," as in Dr. Wilks' case, or by strong belief in "miracle." Some degree of hope or faith in the cure of the wart by the charmer is necessary, I believe, for success; and this measure of "faith" represents to my mind exactly that condition which, operating through the nervous system, causes the wart to disappear, possibly by acting on the bloodvessels which supply its nutrition.

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—*Gay*.

### THE TREATMENT OF CHOLERA.

THE present may be thought an opportune time for giving the opinions of a few authorities on the treatment of cholera. On turning to Dr. Domett Stone's "Epitome of Therapeutics," which is a comprehensive summary of the treatment of disease as recommended by the leading British, American, and Continental physicians, we find the following:—

Dr. Aitken ("Science and Practice of Medicine," 6th edit. 2 vols. London, 1872) says the management of a case embraces the following conditions:—1. That the horizontal position of the body be maintained; 2, that the administration of opium, with or without cordial stimulants, be at once commenced; 3, that the induction of perspiration be brought about. The following is a good formula for an antispasmodic pill in early stage of bowel relaxation:  $\mathcal{R}$ . pulv. opii gr. xij., camphor. gr. xxx., pulv. capsici gr. ix., spt. vini rect., conserv. rosæ, q.s., misce et div. in pill xii. The following "cholera mixture" has been found useful in many cases of diarrhœa:  $\mathcal{R}$  pulv. aromat.  $\mathfrak{z}$ iii., tinct. catechu f.  $\mathfrak{z}$ x., tinc. cardam. co. f.  $\mathfrak{z}$ vj., tinct. opii  $\mathfrak{z}$ j., mist. cret. prep. ad f.  $\mathfrak{z}$ xx. Of this mixture the dose is one ounce.

Dr. Niemeyer ("Text Book of Practical Medicine," 8th edit., 2 vols. London, 1873) believes that energetic sweating occasionally averts an attack of cholera. Opium is one of the most efficient remedies against choleraic diarrhœa. The so-called Russian cholera drops are particularly celebrated:  $\mathcal{R}$ . tinct. valer. æth. two drachms, vin. ipecac. one drachm, tinct. opii one drachm, oil of peppermint five minims. Take twenty to twenty-five drops every hour or two. Dr. Niemeyer gives opium in the shape of Dover's Powder, or as tincture in mucilage. If the diarrhœa, in the course of a few hours, has improved, it is well to continue it in smaller doses till a formed stool shows that the excessive transudation into the intestines has ceased. If, on the other hand, in spite of the repeated doses of opium, the diarrhœa continues or grows worse, if the patient collapses visibly, if his skin grows cool, and the dejections lose their colour, Dr. Niemeyer regards the continuation of opium as contra-indicated. In such cases he has had the best results from cold compresses frequently applied to the abdomen, and from the administration of calomel (a grain every hour). The patient should be allowed small portions of ice-water or small pieces of ice to swallow at short intervals, to replace the loss of water from the blood. Stimulants should be given from time to time as soon as the pulse becomes small and the patients are evidently in collapse. Among the stimulants, champagne that has stood in ice is preferable to most others. In poor practice, rum or arrack diluted with water is best. Frictions of the skin with tincture of mustard often relieves the painful cramps in the muscles. With regard to nourishment, after the attack is over we should give nothing more irritating than diluted milk, meat broth, and biscuit. Solid food should not be allowed till pulpy and consistent stools appear.

Dr. George Johnson asserts that in the treatment of cholera and choleraic diarrhœa, which is, in fact, cholera in a mild form, the main principle to bear in mind is that the



discharges are as essentially curative as is the eruption of small-pox. They are, therefore, not to be abruptly stopped by opiates. A copious imbibition of pure cold water will suffice for the cure of most curable cases. The over-distended bowel, not unfrequently met with, must be promptly relieved by giving some quietly-acting, yet unirritating evacuant dose—such as castor oil. The time to give opium, if at all, is in small doses, to soothe the bowel after the expulsion of the poisonous secretions.

Dr. T. M. Lownds (*Lancet*, Sept. 2, 1871) considers the treatment under four heads: 1. Choleraic diarrhœa; 2. true cholera; 3. collapse; 4. reaction. For the first, he prescribes a draught containing a stimulant antispasmodic combined with opium, about fifteen drops of each, dissolved in three or four drachms of brandy, given in plain water or in an effervescing draught. In the second stage, opiates are more sparingly used; a dose or two of calomel given, and sinapisms applied to the abdomen; a drink consisting of one drachm of the chlorate of potass, with eight or ten drops of strong muriatic acid, and one or two drachms of dilute nitric acid to twenty-four ounces of water in one or two-ounce doses, at the will of the patient. As soon as the rice-water discharges appear, cold beef-tea. In the third stage (collapse), all medicine, except cold soup and chlorate of potass drink, are discontinued. In the fourth stage (reaction), we must be guided entirely by general principles.

Dr. Daniel W. Parsons ("Liverpool and Medical Surgical Reports," October, 1871) adopts Dr. Macnamara's classification of the stages of the disease. He advocates the astringent treatment in the first stage, and combines carbolic acid with the opiates. In the second stage large doses (30 grains) of capsicum as an excellent stimulant to the sympathetic nerves; drinks acidulated with sulphuric acid to neutralise the alkaline character of the rice-water fluid, and occasional doses of carbolic acid; also friction or chloroform to relieve the cramps. Turpentine stupes and sinapisms do no good, but often harm, in this stage, while opiates are worthless. In the third and fourth stages Dr. Parsons urges the capsicum treatment, and when the medicine cannot be taken by the mouth it should be given by the rectum. In the stage of collapse, immersion in a saline bath, or the envelopment of the patient in sheets soaked in solutions of nitrate or chlorate of potash. In the fifth stage (reaction) the treatment should be very guarded. Stimulants should not be urged for four or five days; bland nutritious diet should be selected, and, if suppression of urine should occur, cupping over the loins is advised, with small and repeated doses of tinct. lyttæ, ten drops every hour. The various sequels must be treated on general terms.

Dr. Edward Clapton (*British Medical Journal*, Sept. 30, 1871) finds, on referring to the records of St. Thomas's Hospital, that in the cholera epidemic of 1854, when 208 patients were admitted into the wards of this hospital, the general and most successful plan of treatment was the hot-air bath at 130°, large mustard-poultices to the abdomen and calves of the legs, an ipecacuanha emetic, ice *ad libitum*, iced soda-water. As soon as the patient could take food, a little milk, arrowroot, or weak beef-tea was given. In very few cases were stimulants or opiates prescribed. The ipecacuanha emetic, in many instances, quickly brought about reaction from the state of collapse, and gave an impulse to the heart's action. Castor oil in frequent half-ounce doses was given in ten consecutive cases; but six died, and the plan was at once abandoned. Those treated by calomel in frequent doses also presented a large mortality—fifteen deaths out of twenty cases so treated. Creosote in half-hour doses of one drop was given to six

patients, who were also treated by hot-air bath, emetic, ice and mustard poultices; five recovered. Quinine, in large and frequent doses, was given in two cases; one recovered. In nearly all the less severe cases of cholera, dilute sulphuric acid in half-drachm doses every two hours was prescribed, in addition to the other means explained. In these cases the mortality was only one-sixth.

Dr. Gallaher (*New York Medical Journal*, May, 1871) gives the particulars of some cases of cholera and dysentery successfully treated by himself by the hypodermic use of morphia.

Dr. Blumenthal (*Allgemeine Medic. Central Zeitung*) states that he and two of his colleagues treated eight cholera patients in the Riga hospital with hydrate of chloral. Six recovered. In one of the fatal cases the patient was moribund when the chloral was given; the other death occurred in a pregnant woman, aged 35. The most obvious effect of the chloral in the cases that recovered was early arrest of the vomiting and diarrhœa.

Dr. Little (*Medical Times and Gazette*, Aug. 17, 1871) gives mustard as an emetic, a mechanical aperient, and a neuro-tonic.

Dr. Austin Flint ("Science and Practice of Medicine," 2nd edition. 1867), with a view to arrest the intestinal effusion, prescribes a grain of salt of morphia, administered by placing it dry upon the tongue. If the first should be quickly rejected, a second should instantly be given, and repeated at intervals of from half to three-quarters of an hour until the dejections and rumbling sounds in the abdomen cease. It may also be given by the rectum. The patient should be restricted to a very small quantity of water, or spirit and water, given at short intervals, or to small pieces of ice. Perfect quietude is important. Dr. Flint has repeatedly succeeded in arresting the disease by this plan of treatment, and, when arrested before proceeding to the stage of collapse, the recovery is usually speedy. In the stage of collapse, opiates should be given, but not to induce narcotism. Astringent remedies, if the stomach will retain them, may be added, such as tannic acid, the acetate of lead, bismuth, &c. If, however, these or other drugs provoke vomiting, they will be likely to do more harm than good. To allay vomiting, hydrocyanic acid, creosote, and chloroform may be tried. To excite and aid the efforts of nature in restoring the circulation, together with the functions dependent thereon, external heat, by means of warm blankets or bottles of hot water, stimulating applications to the surface, diffusible and other stimulants, and alimentation may be employed.

Dr. Patterson (*Medical Times and Gazette*, Jan. 27, 1872) claims for the treatment of cholera by injection with morphia that its action is more decided than any other treatment he has seen or practised, and that in the race against death we gain time for further treatment when it is necessary.

(To be concluded.)

MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]



# The Body and its Structure

"The proper study of mankind is man."—*Pope*.  
 "What a piece of work is a man!"—*Shakespeare*.

## NO. XIV.—THE ORGANS OF THE BODY.

By A. J. MANSON.

ALL living beings—save the very lowest—plants and animals alike, are distinguished by the possession of parts or structures called "organs," each adapted for the performance of a particular function or duty. The lowest animals and plants exist each as mere specks of protoplasm—that wondrous living jelly which alone of all the living body's structures can lay claim to the term "vital." These lowest living specks exhibit no "organs" or parts, and are hence said to be destitute of *organisation*. Long ago, before the microscope reached its present state of perfection, philosophers, in attempting to define "life," declared that that mysterious force or entity was "organisation in action." They also alleged life to be the result of "organisation." But such definitions may be readily shown to be both incorrect and absurd. An animal or plant does not live because it is "organised"; it is organised because it lives. Life is the cause, and not the result of organisation. Life not only precedes organisation in bodies which are

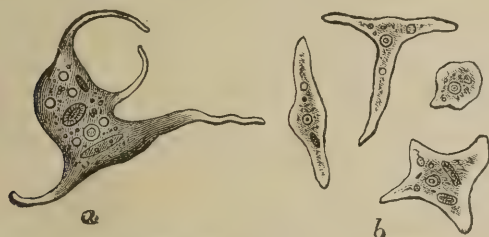


Fig. 1.—Amœbæ (largely magnified).

organised, but exists, as we have seen, without organs or definite structures at all in many bodies of the lowest rank. The *Amœba* (Fig. 1) of the pool—or, better still, the even simpler *Protamœba*, is thus a mere speck of living protoplasm, which, destitute of organs and parts, yet lives, eats, and moves perfectly after the fashion of its kind. When it moves it simply pushes out the soft substance of its frame in the desired direction, and the rest of the body follows. It flows, so to speak (*b*), from one shape to another. When it eats, it simply throws its body round the food-particle against which it has stumbled, and engulphs the mass. In the interior of its body, the particle is dissolved, if it can be digested at all; and the waste matter is simply rejected from the body by the protoplasm unclosing and allowing the useless part to escape. Any part of the body serves for a stomach, just as any part receives food. There is, in the amoeba, an utter want of "specialisation," as it is named, or the setting apart of organs to perform special and distinct duties. All parts are competent to perform all functions, like the general servant of the small household.

Now, the great difference in structure between the low and the high animal is the possession of definite organs and parts, each adapted for the performance of a special duty in the life of the being. The higher the animal or plant, the more elaborate is its organisation. That which constitutes the chief difference between a snail and a dog, for

example, is not variation in the functions of life, but variation in the perfection of the detail with which the functions are performed. Both animals eat, digest food, and circulate blood by means of a digestive system, heart, and blood-vessels respectively, but these organs in the dog are of more complex type than in the snail, and it is precisely the same with the comparison of dog and man—although the two latter forms are much more nearly allied than are the snail and the canine. It is this "physiological division of labour," as it has well been called, which gives to the high animal all its characteristic form and powers. The labours of life grow more complex as we ascend the scale of existence, but the complexity of duty is accompanied by, and manifested through, intricacy of structure; and it is in man and his nearest allies that we reach the highest type to which animal "organisation" has attained.

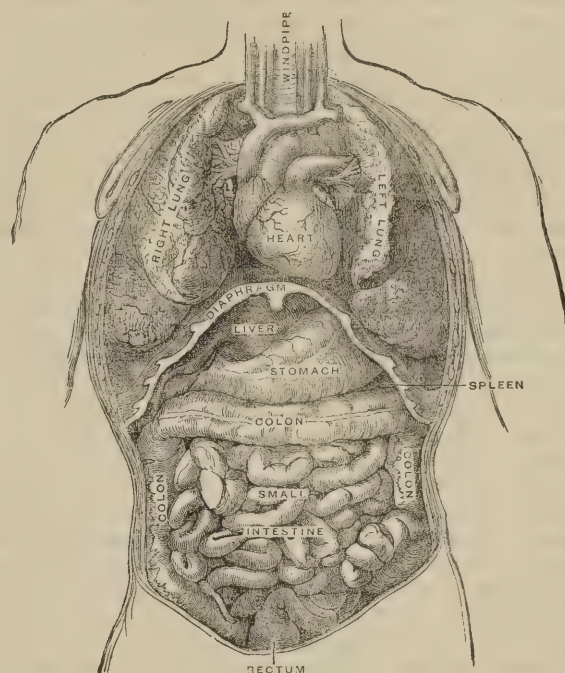


Fig. 2.—View of the Organs in their Natural Position.

In a former article we showed that the general type of the human body was similar to that seen in all other Vertebrate or "backboned" animals. This type we saw to be represented by a double-tube arrangement. The brain and spinal cord are thus contained within skull and spine, the latter structures forming the first of the two tubes; whilst the rest of the body—bounded on the chest by ribs and breast-bone—forms a second tube. Herein are contained the chief organs of the body, exclusive of the nervous centres. The heart lies to the front; or lowest, if we speak in the terms of comparative anatomy as applied to the lower animals. The digestive system occupies a middle position, and the sympathetic nervous system, in the form of a double chain of nerve-knots, runs down the front of the spine. The cross-section of the body at the level of the heart shows the same arrangement of parts. In the section before us, we also see that the body is divisible, like the skeleton, into a *trunk* and *appendages*. The latter form the limbs. The *trunk*, in turn, is divisible into three regions, namely *head*, *chest* (or *thorax*), and *abdomen*.

The *head* itself contains the brain, organs of sense, the mouth-cavity, and other parts. The tendency of higher animal life appears to develop the head as a specialised



part of the animal's frame. In lower life we note how much more active and highly developed is the head—possessing snail or cuttle-fish, as compared with the headless oyster or mussel. In higher animals still, in which the brain forms an all-important structure, the head-development continues, until, in the higher tribes, we find first the head and then the face, definitely specialised out from among the belongings of the animal frame.

The *thorax* or *chest* (see Fig. 2) is the cavity bounded by the spine behind, the ribs at the sides, and the rib-cartilages and breastbone in front. The chest in quadrupeds or *mammals*—to which class man belongs—is completely separated from the *abdomen* or lower cavity of the body by a great broad muscle named the *diaphragm* or “midriff” (see Fig. 2). The trunk thus becomes divided into two cavities, the upper (or chest) being devoted to the protection of the organs of breathing and circulation, whilst the abdomen contains the digestive organs and those belonging (*e.g.* kidneys and spleen) to other systems. In animals lower than the quadrupeds, such as birds and reptiles, the chest is not completely separated from the abdomen, the “midriff” being incompletely developed. The lungs and heart (see Fig. 2) are thus enclosed within a cavity of their own, so to speak, the heart lying between the two lungs, and the windpipe serving as the means whereby the lungs are brought into communication with the outer world. The *diaphragm*, it may be added, is the great means whereby in breathing we inspire or “take in a breath.” Hiccough is due to the spasmodic contraction of this great muscle. In the figure, the great vessels arising from the heart and passing to and from heart and lungs are also shown.

The position of the organs of the abdomen appears to be in the main regulated by the development of the digestive apparatus. The digestive system, as will hereafter be shown, is merely a tube, of which the mouth and throat represent the commencement, while the intestine (or bowel) is the terminal portion. In the abdomen we find (see Fig. 2) the *stomach* occupying a middle position, the *liver* lying on the right side, and the *spleen* to the left side. The spleen, it may be added, is an organ connected with the elaboration of the elements of the blood. Succeeding the stomach, we find the intestine (or bowel), a tube which, in man, attains a length of 26 ft. It consists of a *small* and *large* portion. The former immediately succeeds the stomach, and food thus passes from the stomach directly into the small intestine, after stomach-digestion has been completed. The small intestine measures about 20 ft. in length, the large intestine being about 6 ft. in extent. In vegetable-feeding animals, the intestine is always long and more complex than in animal-feeders. The large intestine consists of three parts, named respectively the *cæcum*, *colon*, and *rectum*. The colon, as it exists in the body, forms, as shown in the figure, a kind of arch, of which the various parts are respectively named the ascending (on the right side), transverse, and descending colon. Concealed by the stomach is the *pancreas* or “sweetbread,” an organ in shape like a dog's tongue, and which, like the liver, opens into the intestine by a special duct. The liver secretes or manufactures *bile*, a fluid poured on the food as it passes along the intestine, and necessary for the digestion of food. The “sweetbread” likewise pours upon the food its special secretion, named the *pancreatic juice*; this fluid entering the first part of the intestine along with the bile from the liver, and as the food leaves the stomach. The *kidneys*, two in number, lie one on each side of the spine in the lumbar region, or that of the loins.

It may be pointed out that, as shown in our illustration, the liver and stomach lie somewhat under the arch formed

by the lower ribs and diaphragm. When the ribs are compressed, as in tight-lacing, it can, therefore, be seen how readily displacement of these important organs may, and usually does, occur. The digestive derangements which those who tight-lace experience, are due to the injurious pressure made upon the organs of the abdomen; and serious displacement of other organs in addition to the liver and stomach, is certain to occur through persistence in the pernicious practice which, unfortunately, frivolous persons to-day practise to the detriment of their health.

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ONE ounce rectified spirit to 15 of water, with the addition of 4 drachms chloride of ammonium, makes a capital cooling lotion.

A MOTH IN THE EAR.—Dr. Howard Jones, of Circleville, Ohio, relates (*New York Medical Record*) the following somewhat dramatic case, *à propos* of foreign bodies in the auditory meatus. “Two gentlemen were walking leisurely down the street a quiet evening in July, after the street lamps had been lighted, one of them wearing a white straw hat. As they came near a gas-post an insect flying rapidly struck the straw hat of No. 1, and cannoned directly into the right external meatus of No. 2. The gentleman clapped his hand to his ear and screamed with pain. He entered the nearest dwelling, where I found him a few moments later, greatly excited and suffering intensely. The lady of the house had attempted to pour milk into the ear, but could not succeed. Upon examination I discovered the external canal completely plugged with a dirty grey body, which when touched, the patient said, scratched terribly. The blades of a pair of small forceps were at once carefully inserted upon each side, and then closed upon the object. By careful pulling it was gradually withdrawn, and proved to be a grey-and-white moth, something over an inch in length, and so large in diameter that it fitted tightly into the canal.”

ANOTHER SUBSTITUTE FOR COD-LIVER OIL.—Among the numerous substitutes for cod-liver oil which have from time to time been brought before the notice of the profession, dugong oil, which is an extract obtained from the dugong, an herbivorous cetacean inhabiting the warm seas of the coasts of Australia and the Eastern Archipelago, has met with a most favourable reception. Dugong oil is free from the unpleasant odour and taste which characterise cod-liver oil, and is much less liable to change in keeping. At ordinary temperatures it is opaque, from the separation of its more crystalline constituents, but becomes clear and almost colourless when slightly warmed. The dose is the same as cod-liver oil.

THE mortality returns for England in the year 1881—which have just been completed—record the death of 91 persons who were registered as 100 years old and upwards when they died. Of these aged persons 25 were men and 66 women. The ages of the men are recorded as follow:—Nine were 100, five 101, three 102, one 103, two 104, three 105, one 108, and one, who died at Hockham, in Norfolk, if the register is to be relied upon, had attained 112 years. Of the women twenty-four had reached 100, fifteen 101, eight 102, five 103, six 104, two 105, three 106, and three 107.

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## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### DOSES.

BY A RECENT VICTIM.

It is a popular and dangerous fallacy that scrupulous regard is paid to the orders of the medical man in the all-important matter of dosage. To the least-informed among our readers, the importance of accuracy is evident, and a general opinion prevails that the instinct of self-preservation is enough to keep people right on this question. But this is far from true, as can be attested by any medical man, and the latitude taken by patients in estimating the quantity of a drug to be taken renders us thankful that the fatal dose is seldom approached by physicians. It is within our experience that a six-ounce mixture containing twelve doses, one of which was ordered to be taken thrice a day, has been emptied in less than two days; and the very same conditions being insisted upon, we have known the "bottle" unfinished at the end of the week, though it was stoutly maintained each dose had been given correctly both as to time and quantity. There is here room for such serious results that it behoves us to insist upon the public giving much more minute consideration to the orders of their medical men; and, if we may be allowed to apportion the blame equally, it will be found that the profession itself cannot escape the responsibility of using such indefinite terms as "teaspoonful," "tablespoonful," &c. Everybody knows how these domestic measures vary in capacity, and those who do not can easily ascertain the difference by making a trial of those closest at hand.

Let us suppose that five drops of liquor arsenicalis is ordered to each teaspoonful, the term meaning, as it always does, one fluid drachm. It is certain that by the use of the many-sized spoons in general use the patient will in one case take about three drops, in others as many as six to eight. And what does this difference mean? Arsenic is one of the most common and most useful of medicines, and, moreover, requires to be used for a period of time often amounting to months. It is prescribed in chronic cases which are only occasionally seen by the physician, and certain people are peculiarly easily affected by the smallest quantities of the drug. Even the five drops taken thrice a day may have more marked effect than the physician intended, but he is simply hoodwinked if these symptoms are brought about by the use of the larger dose; and should the patient have an idiosyncrasy or special susceptibility with regard to the action of arsenic, eight drops may prove such an irritant as to cause suspicion of poisoning. If three drops are used instead, it is probable that the expected cure or relief will not be effected, the sufferer becomes dissatisfied, and the doctor is misled. Certain medicines, too, are cumulative in their action—that is, they accumulate in the system, or their physiological effect increases till danger results; and it must be obvious how much more readily such an *accident* will occur if the doctor's dose is habitually exceeded.

The variations in the time of giving drugs are quite as great as are the differing quantities administered. Palpitation is found to be assisted by some form of digitalis taken thrice a day, and the ignorant or thoughtless suppose, if that is so, the heart will be completely steadied by its use perhaps every four hours. The result is an attack of vomiting, with other symptoms of digitalis poisoning; and if the heart has been much oppressed in its action pre-

viously it is not unlikely that a sudden death may be recorded in the wrong column of the Registrar-General's report. Nothing but scrupulous exactness should be tolerated in the sick-room with regard to the use of all medicines, whether for external or internal application, and a careful nurse will note all her directions as well as the manner in which she has been able to fulfil them. The many minutiae can only be known from the physician in each case, and such evidently important directions as the time in connection with food at which a medicine should be taken will demand particular attention. Certain medicines can only be tolerated when the stomach contains a meal; whereas others must be given before food, perhaps as appetisers.

The only safe method of using drugs is from properly-graduated measures, now sold by all chemists. These may be of any shape, but generally they resemble the familiar tablespoon or wine glass. Drops should be measured in a small glass, kept specially for this purpose, as the doses of drugs are given in *minims*, which differ much in many cases from the quantity dropped from an ordinary medicine bottle. Indeed, a drop differs according to the nature of the liquid, or the shape of the bottle from which it is poured; and fifty drops of a syrup will be found to measure much more than if the fluid was one of the common tinctures. A teaspoonful is supposed to represent a drachm, or an eighth of a fluid ounce; a dessert-spoonful should equal two drachms, and a tablespoonful half an ounce. Patients and nurses will do well to remember that these exact quantities should in all cases be used, and not to forget that any departure from the quantities prescribed entails considerable responsibility.

### MASSAGE.

DR. BEUSTER, of Berlin, read a paper on this subject at a meeting of the Verein für innere Medicin in Berlin, on Jan. 8 (*Deutsche Med. Wochens.*, March 12 and 28). It is desirable to consider the advantages of this form of treatment on nervous diseases as well as on others, in order to fix the limit of its operation. The treatment which is now being judged by the medical world is the oldest of all, and has been employed by men in every country and in every age. It was known to the Asclepiades, to Hippocrates and Galen, and the Greeks practised it in the fourth century B.C. In Rome, in the time of Nero and Trajan, massage formed part of the programme carried out in the tepidarium of the public baths. The Brahmins in India practised it under the name of shampooing, and Alexander the Great when he was in India, allowed those of his soldiers who had been bitten by serpents to be so treated by the priests. It was brought to Germany by the Crusaders from Syria and Palestine, but it soon passed out of the physicians' hands into those of the people, and was employed merely as a pleasurable sensation. Travellers relate stories of its extension to every quarter of the globe. The natives of Nubia and Sennar employ it largely, and Professor Hartmann found its beneficial effects during an attack of fever to be so decided that he regretted having refused so long to submit to it. Dr. Emerson tells of its employment by the Sandwich Islanders, under the name of Lomi-Lomi, and honoured guests are there shampooed as a special mark of regard. In some cases, the people lay themselves on the ground and allow their children to run over their bodies

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by way of massage, a proceeding which is also seen in the province of Brandenburg. In Japan it has been used from the most ancient times as a refreshment after over-fatigue, as well as to cure diseases. Massage seems, however, to have been employed earliest of all by the Chinese. In the beginning of the present century a book, "Cong-Fou," 3,000 years old, was translated by the missionaries Hus and Amiot, in the medical part of which all the proceedings of the Swedish gymnastics are described so fully as to render it likely that they were really taken from this work.

The following are the different movements of massage as now practised, and as the French have formulated them.

1. *Effleurage*.—*Friction douce*.—Slow, gentle strokes in a centripetal (*i.e.*, towards the centre) direction along the course of the veins and lymphatics, made with the palm of the hand, oiled, and with the pressure intermitting, so as to cause passive peristaltic action (or movement resembling that of the intestine).

2. *Massage à friction*, in which the finger-tips of one hand, held at right angles to the axis of the limb, rub across and across in narrow ellipses, while the fingers of the other hand stroke parallel to the axis of the limb from above downwards.

3. *Kneading (pétrissage)*, which should also be done from the outside towards the centre, and which consists in raising up the soft parts and kneading them in a way that may be compared to squeezing a full sponge.

4. *Tapotement*, or tapping or striking, causing concussion of the affected part, which may be done with the fingers, the palm, the margin of the hand, the closed fist, a percussion-hammer, or an instrument like a drumstick, with an india-rubber head and a whalebone stem.

The French have also various other instruments, and they employ also the passive movements of flexion, abduction, adduction, rotation, &c.

The amount of power required to be executed is very variable, and it wants much practice and experience. The number of sittings may vary from two to five in the day, and their duration from three to twenty minutes, or even one or two hours. The proceeding seems to cause the operator not only fatigue, but also a nervous excitability, from the action on the nerves of the fingers and hand.

The chief point of the question is the physiological effect which it has on the human body. Professor von Mosengeil thoroughly discussed the question in the German Surgical Congress in April, 1875. The centripetal stroking favours the circulation in veins and lymphatics, and acts backwards even on the parts which are not touched, so that a greater quantity of blood passes through the parts, causing increased tissue-change. It is clear that the formation of exudation (or diseased products) will be thereby prevented, and that exudation already formed will be removed, and even more solid formations will be fattily degenerated, and so absorbed. Pathological products can be removed even from such situations as the articular cavities, as has been proved by experiment.

Another result of massage is the diminution of pain. This may be partly due to the removal of pressure from the nerves, but it is also certain that after massage the entire sensibility of the part is reduced below normal, so that there must be some action on the nerves themselves. It may be of the nature of paralysis, or of some alteration in the equilibrium between the nervous molecules, especially after 'tapotement.' The motor nerves (or those going to muscles, &c.) with the muscular contractility and the tone of the blood-vessels, are also affected.

Every possible form of disease has been at one time or another treated by massage, but the most important results

have been seen in joint-affections, such as bruises and sprains.

It is particularly useful in defective action of the stomach and intestines, and even volvulus (or bowel obstruction) has been cured by its use. It has, finally, been employed for relieving the brain of blood; and in one case of a soldier, treated by Herr Gerst, convulsions arising from kidney-disease were cured in four sittings in one day.—*London Medical Record*.

DR. MARTIN'S ADHESIVE PLASTER consists of indiarubber and Burgundy pitch, incorporated with a small amount of Tolu balsam, and spread on muslin or silk.

THE RATIONAL DRESS ASSOCIATION.—"What benefit shall I gain by joining your association?" is a question often asked. Let us try to answer it. In these days hardly any measure of reform, however small, can be carried without the strength which association gives. The power of the individual is almost nil unless joined to that of others interested in the same cause. By joining an association you assist in forming and giving power to an organised body, which can carry on a work you cannot carry on by yourself; and the more power you give the association the more it can return the investment of your help by helping you. The object of this association is dress reform, and, although this may appear a small matter, it is one which has been written and spoken about, longed for and wearily sighed for, for a great many years; yet no practical and lasting reform has been gained. The reason of this failure is that there has been no association sufficiently strong to be able to cope with the difficulties which stand in its way. In order to make this reform easy, or even possible, public opinion has to be more thoroughly aroused to its imperative necessity. The taste of the public has to be guided and cultivated, so that it may learn to approve of good dress, and disapprove of bad, unhealthy, and deforming dress. The several members of the dress trade have also to be influenced, so that those who desire to reform may not be obliged to go from shop to shop, from one dressmaker and tailor to another, to find what they want; their trouble, worry, and loss of time and money often ending only in disappointment and disgust. These are works best performed by an association, and perhaps it is only by such means that the trade will be led to see that the demand for rational dress is widespread, and that they must set about in earnest to produce the supply. For the individual who wishes to adopt reformed dress, the more who can be induced to do so the less noticeable it becomes. It is therefore to the direct advantage of every one to join an association and to induce others to join it, so that the sense of singularity may be diminished, and soon even entirely lost. To women who associate together to demand the suffrage, higher education, university degrees, &c., the best proof they can give that they are worthy to receive what they demand is to show that they can associate together for self-reform also, and so gain self-emancipation from the folly and tyranny of fashion. To men we would urge that dress reform concerns them as much as it does women. That by association with women they can greatly influence public opinion, and give courage to those women who are deterred from making this much-needed reform from fear of the disapprobation or ridicule of men. They can also promote dress reform among themselves, as individually it appears even more difficult for them than for women to make any change in this respect. For each then to help themselves, and for all to help one another the word is—Association.



## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

No. XII.—HEALTH-RESORTS DESCRIBED (*Continued*).

**RAMSEY**, Isle of Man, lies on the N.E. side of the island. Population about 4,000. A sandy beach exists, and good bathing is plentiful. The town is reached by rail from Douglas. The air here is more bracing than at Douglas, and Ramsey may therefore be regarded as presenting all the typical features of a sea-resort. Residence here is useful in cases of scrofula and other constitutional troubles. Hotels: Albert, Mitre, Royal, &c.

**RAMSGATE**, Kent, eighty-six miles from London. Population about 17,000. This favourite watering-place possesses less of the bracing qualities for which Margate is famous, and has a more southerly aspect than the latter resort. Ramsgate stands midway between the bracing east-coast resorts and the southern seaside towns in respect of its climate. The town faces S.E., and is well protected. The rainfall averages twenty-five inches, and about 141 rainy days occur per year. The mean temperature is 50°, the summer maximum being about 85°, and the winter minimum 23°. A similarity between the climate of Hastings and Ramsgate has been observed, the latter being less relaxing, however. For weakly children, Ramsgate may be said to possess a special climate. Even as late as October and November, children suffering from scrofulous affections benefit from a stay here; by dyspeptics, by those with a tendency to rheumatism, and by nervous invalids, a late residence here, when the excursion-crowds have left, will be found beneficial. As a winter-resort, Ramsgate may also be said to be growing in favour. Bathing is plentiful, though difficult at low tides on account of the shallowness. Hotels: The "Granville," at St. Lawrence-on-Sea; and in Ramsgate itself, Royal Oak, Albion, Royal, &c. A complete series of baths of all kinds has been established in connection with the "Granville Hotel," which, situated as it is on the cliff at St. Lawrence-on-Sea, presents all the advantages of a bracing residence. Return fares: 22s. 6d., 16s., 10s., and special daily fares.

**REDCAR**, Yorkshire, 247 miles from London, *via* Midland or Great Northern Railway. Population about 3,000. The typical dry, bracing air of the east coast is to be found here. There is a good beach of sand, and bathing is easy. For overworked persons, and for all cases in which the digestive powers are able to respond to the stimulus of the sea air, Redcar is eminently suitable. Hotels: Coatham, Red Lion, Royal, Queen's, Swan, Clarence, &c. Return fares from London, 69s. 8d. and 55s.

**RHYL**, Flint, 211 miles from London (population about 6,000), is reached from London, *via* London and North-Western Railway, *via* Chester, or from Paddington. The town lies on the Atlantic seaboard, and is thirty miles from Chester and Bangor. Steamers to and from Liverpool are also frequent. The air here is very pure and bracing, and is well adapted for the robust, and for those invalids who are not predisposed to lung troubles. Hotels: Belvoir, Mostyn Arms, Pier, Castle, &c. Return fares, 61s. 3d., 46s.

**ROTHESAY**, Bute, a famous Clyde watering-place,

within easy reach of Glasgow and Edinburgh, *via* Greenock and Wemyss Bay. This town, which lies in a fine bay, and has Port Bannatyne as a suburb, has long been noted for its extremely equable climate. As a winter-resort for consumptives and for others troubled with lung disorders, Rothesay has long enjoyed a paramount and deservedly high reputation. The *soubriquet* of the "Torquay of the North" might well be applied to this town, since as a winter-resort for the delicate, Rothesay stands high in medical estimation. The mean annual temperature is 48.25°; of winter, 39.62°; of spring, 46.66°; of summer, 58.06°; and of autumn, 48.59°. Rainfall, about 38.62 inches. About 150 days are wet per annum. No fogs exist, and snow rarely falls. Cases of consumption, of chronic bronchitis, and certain cases of asthma benefit from a stay here; while skin diseases at large, gout and rheumatism also, agree with and improve under treatment here. For the more robust holiday-maker, Rothesay may be found too relaxing, and cases requiring a tonic atmosphere will do better on the east coast of Scotland (*e.g.*, North Berwick) than at Rothesay. Hotels: Victoria, Bute Arms, Royal, Queen's, West Bay, Rothesay Arms.

**RYDE** (see also ISLE OF WIGHT). A good beach exists at Ryde, at which a pleasant holiday may be spent by the overworked. The town is 90 miles from London. Population about 12,000. Like Cowes, Ryde is situated on the north side of the island. Hotels: Royal Pier, Crown, Royal Kent, Belgrave, Yelf's, &c. Return fares, 24s. 8d., 19s. 3d., 15s. 9d.

**ST. ANDREW'S**, Fife, is 44 miles from Edinburgh, whence it is reached by North British Railway, *via* Burntisland. The town lies about 50 feet above sea level, on a rocky table-land, and is famous for its golf-links and University. Viewed in a health-aspect, St. Andrew's possesses from July till October a genial, bracing climate. It is cold in spring. For rheumatic cases and chest complaints the climate is, perhaps, too bracing. As a holiday resort for the healthy or overworked, this town deservedly ranks high. Hotels: Cross Keys, Royal, Star.

**ST. ANNE'S-ON-SEA**, Lancashire, lies between Lytham and Blackpool (which see). Population about 2,000. Air of the milder sea-type. Good hotel and other accommodation can be had. Bathing good.

**ST. BEE'S**, Cumberland, 304 miles from London, *via* Midland or London and North-Western Railway. Population about 1,200. The town lies near the coast, which is bounded here by high cliffs. A good sandy beach exists. Climate mild, but bracing; adapted for the overworked, and for weakly children. Hotels: Sea Cote, Royal. Return fares from London: 87s. 9d., 66s. 1d.

**ST. DAVID'S**, Pembroke, is a seaside resort, 300 miles from London, and 16 from Haverfordwest, the nearest Great Western Railway station. The town has a population of about 2,000, and has an Atlantic exposure. A sandy beach exists. The air is bracing for the south-west coast. Hotels: Grove, Prospect, City.

**ST. LAWRENCE-ON-SEA**, a suburb of Ramsgate (which see).

**ST. LEONARDS** (see HASTINGS).

**SALCOMBE**, Devon, a small sea-side resort, difficult of access, and reached *via* Kingsbridge Road on the Great Western Railway, 232 miles from London. Bathing is difficult here. Salcombe is adapted for those with weak chests, and has many of the characters of other Devonshire resorts. It is said to be the warmest spot on the south-west coast. As a winter-resort it has a high character. Hotel: Commercial.

**SALTBURN-BY-THE-SEA**, Yorkshire, 252 miles from London. Population about 2,000. This town has acquired



a high repute as a health-resort. The air is bracing, and a firm sandy beach well adapted for bathing exists. A long promenade pier has been erected. Hotels: Zetland, Alexandra, Queen's, &c. Return fares from London: 74s. 6d., 41s. 11d.

**SANDGATE**, Kent, lies between Hythe and Folkestone, 70 miles from London. Population about 3,000. The characters of the climate are those of Folkestone (which see). As a winter health-resort Sandgate is found to be exempt from fogs. The mean winter temperature is 41·76. Consumptives who may find the air of Hastings, for example, too relaxing, or that of Brighton too bracing, may light upon a medium winter climate at Sandgate well adapted to the wants of their cases. The beach here is of shingle, but bathing-machines exist in plenty. Hotels: Royal Kent, Marine, Norfolk. Return fares: 32s. 6d., 24s. 3d., 29s., 20s.

**SANDOWN**, Isle of Wight (which also see), has a bracing air, as compared with Shanklin and Ventnor. In summer this town is in high repute as a health-resort. There are fine sands, good bathing, and open sea, and a dry soil with good drainage and pure water. In winter Sandown suits those who do not require a mild climate. Population about 4,000. Hotels: Sandown Bay, Royal Pier, King's Head, Star and Garter. Return fares, 33s. 9d., 25s., 18s. 2d.

**SARK** (see CHANNEL ISLANDS).

**SCARBOROUGH**, Yorkshire, 234 miles from London. Population about 32,000. The health-characters of this famous watering-place, which also possesses mineral waters, may be summed up by saying that it is specially suitable for the overworked, for nervous and hypochondriacal cases, and in the summer for those who require a thoroughly tonic air. On account of its restorative properties in cases of general debility, and where convalescence is taking place from fevers, &c., Scarborough has become justly famed. The aspects of the town add to its health-giving characters. It is built on the slopes of a beautiful bay, and its appearance has gained for it the title of "the Naples of the North." From June till October the town is well patronised by holiday-makers and health-seekers. The sands are not of large extent, but bathing is easy. The climate is of an equable type. Scarborough is by no means cold in winter, and, as it is sheltered on the north and east sides, its winter temperature compares favourably with that of many southern resorts. The mean annual temperature ranges as high as 51°. The rainfall is 28 in., and about 123 days per annum are wet. March and April are, perhaps, the most trying of all the months of the year at Scarborough. The mineral waters of Scarborough are set down as containing sulphate of soda as their chief ingredient. There are two wells—the "North" well, which is chalybeate or iron-possessing, and the "South," which is the saline spring. Their qualities are, however, similar; these waters being aperient, tonic, and alternative in character. The temperature of the springs is about 49°. In scrofula, torpidity, and feeble action of the liver, and in habitual constipation, these waters may prove useful. Along with sea-bathing, the waters benefit cases of general want of tone, especially in females. Hotels: Grand, Royal, Crown, Prince of Wales, Queen, Pavilion, Albion, &c. Return fares from London: 65s. 2d., 51s. 4d.

**QUININE PILLS**.—The editor of the *Pharmacist and Chemist*, of Chicago, announces that he will soon publish an analysis of the quinine pills of the market. This looks as if the name "quinine pills" was suspected to be a misnomer.

## Scotings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney*.

**THE NECESSITY FOR HOLIDAYS**.—That a holiday is a necessity, and not merely a luxury, is a fact which it especially behoves members of our hard-working profession to remember in the regulation of their own lives, as well as in their dealings with their patients. For the brain-worker, periodical remission of accustomed toil has always been a necessary condition of continued vigour; for him the heightened tension of modern life has especially accentuated the need for occasional periods devoted to the recreation and the re-accumulation of energy. The cogent physiological principles and practical purposes of systematic holidays are generally admitted. All workers, if they are to last, must have holidays. For some persons, and for some occupations, frequent short holidays are best; with other natures, and in other circumstances, only comparatively long periods of release from routine are of service. Few real workers, if any, can safely continue to deny themselves at least a yearly holiday. Mere rest, that is mere cessation from work, while it is better than unbroken toil, does not recreate the fairly vigorous so thoroughly as does a complete change of activity from accustomed channels. For the strong worker, either with brain or muscle, diversion of activity recreates better than rest alone. The whole body feeds as it works, and grows as it feeds. Rest may check expenditure of force, but it is chiefly by expending energy that the stores of energy can be replenished. We mostly need holidays because our ordinary daily life tends to sink into a narrow groove of routine exertion, working and wearing some part of our organism disproportionately, so that its powers of work and its faculty of recuperation are alike worn down. In a well-arranged holiday, we do not cease from activity—we only change its channels; with such change we give a new and saving stimulus to assimilation, and the transmutation of its products into force. As a rule, the hardest workers live longest, but only those live long who sufficiently break their wonted toil by the recreating variety of well-timed and well-spent holidays.—*British Medical Journal*.

\* \* \*

**THE DUSTMAN**.—Amongst the poor, the visit of the dustman, with his obligatory tax, small though it may seem, charged alike for the removal of the whole bin or a basketful of dust, is naturally deferred as long as possible; and those familiar with the poor neighbourhoods are, or should be, aware that weeks are constantly allowed to pass by without the bin being emptied; and the refuse, it must be remembered, in such cases, is far more offensive than that of the wealthier houseowners. That the dustmen, as is well known, should prefer the poorer neighbourhoods to the rich is only a sad proof of the thriftlessness of the dependent classes in our country. The well-to-do portions of the community, however, are in many points as careless, if not more culpable, than their less favoured brethren. An eminent physician has recently stated it as his experience that, in the course of many years' practice in the fashionable quarters of the metropolis, he has rarely found a house among the dwellings of the rich which in any way fulfilled the requirements of modern sanitation. He gives it as his opinion that, as a rule, he has found them



as carefully prepared for the inroad of disease as are any of the filthy courts in denser parts of the town. The poor, being helpless with regard to means, can at least command the official supervision appointed by Government; but the rich, with sufficient knowledge to guide them, are absolutely indifferent where sanitation means the expenditure of money on things unseen. An obligatory inspection, therefore, of the houses of the wealthy is as necessary as it is in those of the poor. The long-hidden horrors of the underground cellars of most of our houses require to be examined by the authorities. In the meantime, the abolition of the unventilated, refuse-saturated dustbin should be enforced, if that simple "precaution" of the memorandum recently issued by the Local Government Board is not to remain a dead letter:—"House refuse and other filth which has accumulated in neglected places should be removed, and future accumulations be prevented."—*Builder*.

♦ ♦ ♦

EDUCATION AND FOOD.—Children are generally "better clothed," as the phrase goes, than they were twenty or thirty years ago, but they are not properly or adequately fed. Social reform has been very much a whitening of sepulchres as regards the poorer classes. Police regulations have compelled parents to spend more money on the clothing of their children, but it has done nothing to improve the quality or to increase the quantity of their food. They look more respectable, according to our conventional notion of what constitutes "respectability," but they are just as hungry as, and therefore not happier than, they were before society, in one of its hyper-philanthropic moods, took their condition seriously in hand. The education system is *not* overworking children, but it is demonstrating that they are underfed. It would, indeed, be a boon to the country if all school patrons were as astute as Sir Henry Peek, and withal as sagacious in finding a remedy for the evils they discover. With admirable tact Sir Henry has devised a system of cheap dinners for children. The parents pay five pence for five dinners in each week, so that they are not pauperised or released from their responsibility; and for this small sum the children have an excellent midday meal. It is needless to say that the "attendance" at school is found to be well maintained, and the children are better, healthier, and happier than the children of other schools. This is a movement so praiseworthy that we cannot allude to it except in terms of warmest approval. We do not hesitate to affirm that Sir Henry Peek has shown school managers generally how to cut the Gordian knot of the education question. Do not reduce the number or difficulty of the lessons, but increase the quantity and improve the quality of the food. That good feeding is necessary for brain-nutrition does not need to be demonstrated, or even argued at length. The brain is part of the body, and—referring to our recent remarks on "Overwork in Connection with Education"—it must be evident that the position in which education places the brains of underfed children is that of a highly-exercised organ urgently requiring food and finding none, or very little. These children are *growing*, and all, or nearly all, the food they can get is appropriated by the grosser and bulkier parts of

the body to the starvation of the brain. If their brains were not stimulated by intellectual work they would be simply left undeveloped.—*Lancet*.

♦ ♦ ♦

MARGARINE BUTTER.—The *Hamburger Nachrichten* lately published a sketch of a law proposed by a Schleswig-Holstein correspondent for regulating the sale of margarine butter in such a way that there would be no possibility of its being sold as natural butter. In the United States it is only allowed to be sold in an uncoloured or white condition, and this limitation it is proposed to introduce into Germany. The packages would be painted a special colour, and would only be delivered to the buyer in open conveyances, the contents of which would be visible to the public. The packages would, when opened for sale in the retailer's shop, be marked *artificial butter*. Any baker, confectioner, restaurant-keeper, &c., using margarine would be obliged to notify the same by a tablet on his premises. The confiscation of all margarine butter sold as natural butter is also suggested.

♦ ♦ ♦

WEIGHT OF INFANTS.—Biedert has studied somewhat the weight of sucking-children, and gives a few tables of the weight of four children. He especially insists upon the importance, in weighing babies, of selecting a particular time of the day, and recommends two hours after the first feeding in the morning. By weighing twice after a meal, at different intervals, there is shown to be a loss. From a limited number of observations he obtained the following average losses during periods of ten minutes for different ages: first half of the first month, 3.3 grms.; second month, 5.9; third month, 7.7; fourth month, 8.3; fifth month (one child only), 8.1. These are the rates of loss from excretion of all kinds. The other principal point of Biedert's article is, that, with care in weighing, the accidental variations may be nearly all eliminated, leaving only those due to illnesses. In part second the growth of children with minimal nourishment is discussed from a medical stand-point.

## Sanitary Appliances, &c.

THE MALVERN WATERS.—Messrs. W. & J. Burrow, of Malvern, have sent us samples of the waters bottled by them at the springs, and used in the manufacture of various aerated waters. According to the analysis of Mr. Tate, the Holy Well water of Malvern gives the following analysis:—

	IN ONE GALLON.
Carbonate of lime .....	1.02480 grains.
Carbonate of magnesia .....	1.48400 "
Carbonate of iron.....	0.22470 "
Carbonate of soda .....	0.93310 "
Sulphate of lime .....	1.65690 "
Sulphate of soda .....	0.09660 "
Chloride of sodium .....	0.94570 "
Iodide of sodium .....	0.00029 "
Silica .....	0.19250 "
Alumina.....	a Trace.
Organic matter.....	"

6.55859 grains.

It will be seen from the analysis that this water is VERY PURE, containing only 6½ grains of mineral matter in THE GALLON. It is beautifully clear and transparent, and its taste cool and pleasant. The temperature is 46° Fahr., and specific gravity 1.0012.

The late Dr. Muspratt, F.R.S., made an analysis of the Malvern Waters of St. Ann's Well with almost identical results. He says:—

"The water has for years been renowned as highly advantageous as an external application to indurated scrofulous tumours, ulcers, and many eruptive diseases, as well as efficacious, when taken internally, for acidity, dyspepsia, bronchocele, leucorrhœa, secondary

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be *heated* before being consumed."—[ADVT.]



syphilis, periostitis, articular rheumatism, dropsy, &c. By referring to the constituents, the medical man perceives at once that analysis has revealed the reason for its world-famed effects in all the preceding ailments, to which poor human nature is subject. The IODIDE, although present in very small quantities, nevertheless, when taken in a tumbler of water, *four or five times a day*, besides being used externally for weeks, must exert its influence; the carbonate of soda then, in cases of acidity and dyspepsia, acts its ameliorative part, while the carbonate of magnesia and sulphate of soda will have an aperient tendency. Further, and that which recommends it in a very eminent degree, is ITS ENTIRE FREEDOM FROM ORGANIC MATTER. One can only look to RESULTS; and from the beneficial effects the water has had for such a number of years upon various individuals labouring under all manner of complaints, and from the good derived by myself, I can strongly recommend it as one of the best waters I am acquainted with, and one which, IN THE SMALL QUANTITY OF MATTER IT HOLDS IN CHEMICAL SOLUTION, cannot be excelled by any other spring in the kingdom. I know of no mineral water in Great Britain containing less inorganic salts.

"In indigestions that are caused by the weakness or irritability of the stomach, or by the unnatural acrimony of the fluids, the sovereign remedy is PURE WATER; two or three glasses of which on rising, or an hour or so after dinner, is the most excellent preventive against internal maladies."

From a careful examination of these waters, we can testify to their purity and excellence. At the present time, when the "cholera-scare" is rampant, and at all other times when the risks of drinking impure water are so great, the advantage of possessing a pure, agreeable beverage, such as Messrs. Burrow offer the public, cannot be over-estimated. One great and all-important desideratum is presented by these waters in their power of preserving their purity for any length of time. Recently, a quantity which had been bottled ten years before, obtained the only prize medal awarded to English waters at Frankfort-on-the-Maine. Armed with a supply of such water, those who are compelled to reside in cholera districts could run little or no risk of contracting that disease. Sir Henry Thompson's words, that "no purer water exists than that of our own Malvern springs," only describe the true qualities of the articles which Messrs. Burrow offer to the public at reasonable prices. We may add that for yachts and other vessels, for country and seaside residents who are dubious regarding their water-supply, and for all who value health, the Malvern Waters form an inestimable boon.

## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTER TO THE EDITOR.

### HEALTH AND SPELLING.

SIR,—There has been much controversy of late regarding health and education. It is undoubtedly injurious to the future man if the young child's physical culture is made to give too wide place to laborious sedentary occupation. On the other hand, there are very few men having attained manhood who can recall their schooldays with the satisfaction of having gained sufficient erudition. Now, it is our duty to coming generations to find a mean that will allow of sufficient culture of both physical and intellectual powers during the all-important educational age. A step has already been advanced, as no doubt many readers are aware, to modify the spelling of the English language under the most proper name of Phonography, or "Fonografi." When we reflect upon the too vast

number of letters a man writes during his short life-time, that are completely useless in pronunciation, and how much money and time is wasted by clerks and printers in using letters that are utterly superfluous, surely every right-thinking Englishman will agree that a most important reform is wanting in that direction.—I am, yours truly,

EDWIN PERRY.

### CELL-SALTS AND GROWTH.

SIR,—It may interest some of your readers, especially those whose growth appears stunted and whose age has not yet precluded all possibility of developing his (or her) stature, and it may also enlighten one of your correspondents who evidently seems anxious to know if his powers of growth could be roused into activity, if I direct attention to the "cell-salt" theory of treatment.

That it is possible to cause growths I am happy to inform him, if his condition be that of a person whose natural or normal power of development has been prematurely interrupted by any cause whatever. Such stoppage in general is produced by some subtle change in the molecular constitution and molecular motion within some of the bone or periosteum cells. The assimilative power of the living organism has a chemical as well as a physical aspect. The physical unit or cell assimilates chemically the substances which enter into and form its physiological composition. It is an accepted fact by physiologists that this assimilation or aggregation of the molecules of the tissue cell-salts constitutes growth by means of the plastic power of the organism. Heterogeneous particles or molecules become variously located within the various cells by reason of the affinity which the chemical substances (*i.e.*, cell-salts), possess for each other and for the organic bases. This affinity or attraction sets up molecular motion in the cells. When the balance of the molecules of any of the cell-salts has been disturbed, whether by the want or superfluity of any component part over another in the cells, their molecular or normal condition suffers disturbance.

Dr. Schüssler, an eminent German physician, has very fully followed out this line of thought, propounded by the modern cell theory, and has made these facts in physiology his special study. The reader may consult his concise and able treatise on this subject either in German or English, in which he shows that in his successful treatment of diseases he has adopted the measures which are suggested by Moleschott, and these meet the requirements which are made evident by the development of Virchow's Cellular Pathology. His mode of treatment is to introduce molecules of such cell-salts as are found necessary to again set up molecular motion. These are introduced into the stomach and blood by means of a very delicate preparation, in the form of molecules similar to those demonstrated to exist in a cell. Their power of incorporating themselves in this shape within the diseased cells of the complex living machinery has proved a means of restoring the normal composition and motion in the chain of molecular processes. He furnishes us in his book with ample proofs of the service thus rendered to the body in disease or any abnormal condition whatsoever. His remedies, the twelve cell-salts, which are, to all intents, the ultimate component elements of our organism, are thus the means by which diseases can be both safely and scientifically treated.

The cell-salt, specially useful for arrested development or growth, is a molecular preparation of calcium, phosphate, and that other substance, silica, which enters into the composition of the periosteum, a fibrous tissue covering all bone. Children of diminutive, even of dwarfed, stature have been treated with this special preparation of cell-salts, formulated by Schüssler, and have, without almost any exception, developed their latent energy of growth so perceptibly as to leave no doubt as to the effects of these powders. A number of young ladies and gentlemen, desirous of testing in their own case the use of these cell-salts (which are not to be confounded with patent medicines), have procured for themselves the development salts from Messrs. F. Newbury & Sons, 1, King Edward-street, London, E.C. After using these, some of them have grown, even at the age of twenty-four years, as much as an inch and more, after having stopped growing in stature for years. Such evidently suffered interruption and premature stoppage in growth; and the stimulus thus given proved effectual in stirring up their latent power of growth. This delicate preparation is simple in composition, easily taken, and, in its worst effects, can only prove a very mild tonic. It contains one or other of the essentials of food, and thus of life. If one of your correspondents would like to test the usefulness of these salts for normal development, he can procure them from the above foreign agent and wholesale house through his chemist. A continued trial of two or three months will suffice to test whether or not he may have any latent powers of stature development left.—I am, yours faithfully,

M. D. W.



## QUERIES AND ANSWERS.

[Correspondents are requested to address their inquiries to "The Editor of HEALTH," and not simply to "The Editor," as delay in assorting correspondence received at our office arises from the omission of the name of this journal in addressing letters.]

### GENERAL.

A. TALBOT and J. PICKETT.—The person named is a quack, and one of the worst of the species. We have noted him for future treatment.

W. A. THOMS.—Accurate microscopic investigation, in the hands of a practised biologist, can alone suffice for the discovery of the minute organisms in question. We do not agree with the person's theories. It is impossible for any one without a scientific training to discern the nature of the micro-organisms in question. We never heard of all cereal flowers being depositories of specific forms of life.

STULTUS.—Any one can obtain a "patent" for anything he regards as worth it by paying a sum of money. The belt you name we have seen. We are of opinion that its effects are practically *nil* as a producer of electricity; and as to its *price* (and the attacks on your purse) the less said about that the better. The person is a quack, pure and simple. Pay him nothing more. Being a quack, he cannot sue you in any court in Britain. The phial shall be analysed.

HOPEFUL.—Ask yourself this question,—whether persons who publicly advertise their powers of curing consumption and who have given no evidence of any study in the light of recent research, or duly-qualified physicians, familiar with the disease in all its aspects and basing their treatment on accurate knowledge, are most likely to be able to treat that disease successfully? As to the alleged "cures," what evidence is there to show that the cases were those of consumption? It is terribly easy to say a case is one of phthisis, when it is not so; and, of course, its "cure" is at once said to be one of consumption. Our advice is to consult a qualified physician, and to leave advertising quacks to die out—a result which the common sense and education of the people will in time effect. The "religious" journals are literal "pests" in their circulation of "quack" advertisements.

W. PICKARD.—We believe the person you name is a qualified practitioner; but no respectable member of the profession can be found to approve of his advertising himself in the way you name. You would be equally (we should say more) safe in the hands of any surgeon or physician who makes no pretence or show of the kind named.

### SANITARY.

G. ALLAN.—We prefer "Sanitas."

A. ANDERSON, J.—Yes; Professor Lister has recently expressed his views about carbolic spray; see the *Lancet*.

CECIL.—1. Banner's system, certainly. 2. No.

A. DILL.—By a system of percolation. See Parke's "Hygiene."

### MEDICAL.

W. JOHNSON.—Yours is a common case, and one which becomes the prey of quacks. See reply to "A. L.," in No. 17, HEALTH.

SWEETNESS.—Yours is one of those cases in which a thorough examination at the hands of a skilled physician is required. Try the tonic recommended to "W. R. W.," in HEALTH, No. 17. We fancy a thorough change of residence (and possibly business also) is required. This is, of course, a serious consideration, but your health is a still more serious concern. We should recommend you to see some consulting physician in Manchester. The fact of your losing weight is a symptom which causes us to urge the latter step upon you.

A. N.—1. No; use three or four syringefuls of Condy of the strength we named at each application. 2. A glass syringe is preferable, we think; but, if the other is more manageable, use it by all means. 3. No; ordinary water will do.

SWELLING.—You do not say in which part of the cheek the swelling is; nor do you say whether it burst at any time. Give fuller particulars, please.

CEMETERY.—Mr. W. Van Praagh, 11, Fitzroy-square, London, W., will afford all information concerning the teaching of deaf mutes, lip-reading, &c.

DE VERE.—Kindly excuse us from replying to your letter. We do not pander to viciousness.

ÆNEAS.—The old prescriptions are by no means to be despised, although certain of the ingredients (*e.g.*, the whisky and brandy) might well be omitted. There are, however, at hand many more

elegant, efficacious, and scientific recipes, some of which you will find in a paper on cholera-treatment. Opium, we note, is a prominent feature in the notes you send. See our paper on "Cholera," HEALTH, No. 17.

LA VEROLE.—1. Boeck, of Christiania, actually proposed and carried out the idea you suggest. His practice was successful, we believe, in many cases. 2. The drug you name is not now used in the treatment. 3. Keep up your general health—all depends on that. 4. No; for evident reasons. Contagion is not likely to occur unless there is a broken surface.

REX.—See advice in No. 17, HEALTH, to "A. L." Be cheerful, and don't give way to morbid fears. Above all, steer clear of quacks.

HEALTH (Oban).—No; the "thoughts" are the mere mental accompaniments of physical weakness. You will get quite well in time. Occupy your mind in light and cheerful reading, and take moderate exercise.

SPEES.—Your case is as much one for moral correction as for medicine. So long as you are mentally irritable, so long will you have your physical weakness. Mind reacts on body, as well as body on mind. All your symptoms will disappear by strict attention to your life. See advice to "A. L.," HEALTH, No. 17.

A. M. 712.—The effects you name form a variety of a skin-trouble known as *herpes*. This variety recurs whenever the system is low, or excesses of any kind are indulged in. Live temperately, and apply a little carbolated vaseline to the part, and take the tonic recommended to "W. R. W." in HEALTH, No. 17.

ORMI.—We think a course of a mild aperient water, such as "Æsculap," or the "Victoria Ofner Bitter Water," cautiously used, would do you much good. Yours is also a case in which we should feel inclined to recommend a vegetarian dietary, which, with plenty of fruit, &c., and the giving up of tea and coffee, would relieve your symptoms. Glad to advise further, if necessary.

CLAREMONT.—See advice to "A. L." in HEALTH, No. 17. We should advise you to give up alcohol, and to avoid taking fluids just before retiring to rest. You might try one of Pulvermacher's "Electrical Belts." We can certify to their being genuine electrical appliances. Yours is simply a case for the restoration of your general health.

PIERRE.—By all means send us the quack pamphlets, if you please. You do not state your food, mode of life, &c.; but we may recommend you, meanwhile, to rest after meals, and to try a tonic. That recommended to "W. R. W." in No. 17, HEALTH, has benefited cases like yours. Write again if unimproved.

M. A.—Very difficult indeed to offer advice in your case. Your past experiences do not appear to have been very discouraging. Why not try the effect of a short voyage or two of say two hours, *à la* "preliminary canter?" Rupture of a vessel is comparatively rare, save in weak subjects.

FRANÇOIS.—Try a teaspoonful of "Fellow's Syrup of the Hypophosphites" twice daily in half a wineglassful of water. Write if unimproved.

J. R. B.—No; we don't think so in ordinary cases, and where no mouth disease exists in "the other person." Disease may be communicated by saliva; but you should not indulge in "double-smoked" cigars.

BURY ST. EDMUND'S.—Probably the "singing" arises from wax. Have your ear syringed, and attend closely to your general health.

PORTOBELLO.—Yes; the water should be good and pure. Your supply is better than Glasgow, which is softer. We have often heard these complaints about earthenware bottles. Are you sure you get the water itself from a pure source? When was your cistern cleaned last? Many a pure water becomes impure in a dirty cistern.

COLLIS.—You do not say how the ear-affection came on. You possibly suffer from impacted wax. Have the ear syringed. Put a drop or two of glycerine in at night; this will soften the wax.

C. A. W.—Yours is a curious affection. Did you ever inquire how it could be traced to smoking? and how do you know it is the "thyroid gland" which is enlarged? The treatment with iodide of potass is perfectly correct. Try rubbing with a little compound iodine ointment also.

BRUTUS.—1. There is no "poison" in the region you name. The affection was simply an inflammation. Try a local application of belladonna lotion; give support by a bandage, and rest as much as possible for a time. 2. Rest after your meals; take a mild aperient (*e.g.*, "Æsculap" water); and try moderate exercise and cheerful society. Many of your ailments come from your secluded life.

CLANRYE.—Try the effect of a change of diet, and make your food more vegetable than animal for a time. Take "Æsculap" mineral water occasionally; and also use *Fer Bravais* as a blood-tonic.

GLAMORGAN.—At your age, the trouble you mention is tolerably common. You are being well treated. We should recommend you in time to learn under your doctor's guidance to use an instrument



**M. M. R.**—The lead should not be placed next or near the skin. There may be small danger of absorption, but it is better to avoid the danger, such as it is.

**ATHOS.**—Various drugs have been recommended for the purpose, and tobacco and coffee are believed to act in this way. But you should understand that in cases where drugs are used there is apt to be derangement of health; and as we see your object is to attain a high standard, we should simply counsel you to regard your training as the most effectual means. As a rule, training acts in the way you desire.

**GORDON (Otley).**—Published by Messrs. Cassell & Co. Order of any bookseller.

**GREY.**—Are you certain the preparation was properly compounded? Other recipes were given in the "Hair" papers. How long have you used the preparation?

**ANTI-FAT.**—1. The substance consists of a preparation of seaweed. We should prefer to trust to a Banting dietary; give up beer, starch, sugar, and fats. Your stoutness may be constitutional, and to fight against your hereditary legacy, save within reasonable limits, is foolish. 2. No; "fleshy tumours" cannot be removed by iodine. Consult a surgeon as to the swelling.

**THOS. D.**—Thanks for the pamphlet. It is an infamous production. For the sick headaches, try the "Victoria Ofner Bitter Water," which has a special action on the liver. Be careful in your dietary, and take moderate exercise. Give up tea and coffee for a time.

**T. ROSE.**—See advice to "A. L." in No. 17, HEALTH.

**W. RICHARDS.**—1. The pamphlet is that of a herbalist. He is not, of course, a medical practitioner; but, so far as we can see, he does not overrate his powers. 2. We do not think the plaster would benefit you so much as a belladonna one. In chronic rheumatism plasters can only act by affording warmth and support.

**JOHN (Dundee).**—You suffer from a severe form of catarrh, probably chronic. We should advise you to inject weak Condé water (mix with water to make a light claret colour), and also to take cod-liver oil and iron for a time. In cases such as yours, great good is often got by a stay at the seaside.

**M. SINGLETON.**—The condition you refer to arises from general weakness of body as often as from any other or more specific cause. Our advice is:—1. Attend to the general health; 2. Take Fer Bravais or Wyeth's Dialysed Iron, to be had at any druggist's, three doses daily (as per directions on bottle); 3. A visit to the seaside or to some inland resort (e.g., Malvern) might do good; 4. Use as an injection a solution of Chloralum, about 1 to 10 of water. If not improved, write again.

### NOTICES.

Just published, Part 3 (containing the July numbers), price 10d., postage 2d. Part 1, including Nos. 1 to 7 (April and May), price 1s. 4d.; post-free, 1s. 8d.; and Part 2 (June), price 1s., are still to be had.

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All subscriptions are payable in advance.

HEALTH is also published in monthly parts, those containing four numbers, price 10d., and those containing five numbers, price 1s.; postage 3d. extra.

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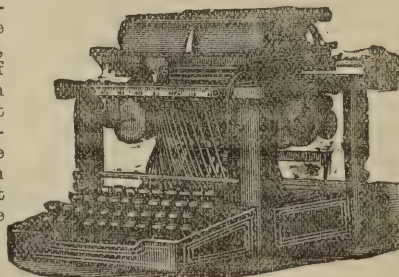
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"BISHOPTHORPE, YORK, October 14th, 1882.

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## ♦ HEALTH ♦

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, AUGUST 24, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

WE beg to direct the attention of our readers to the letter of "M.A.," published in the present number. The "sorrows of shopwomen," we learn from this communication, include grievances which, up to the present moment, seem to have escaped the notice of health-reformers. It is bad enough for women to be subjected to the trial of standing for a long day, but when the dictates of the fashionable emporium necessitate tight lacing as an essential feature of employment therein, the last straw would seem to have been added to the back of the modern white slave. The "good figure" of which our correspondent speaks is, of course, a figure in the outlining of which the corset must play a prominent part. Swathed in this latter contrivance, standing all day, poorly-fed, hurried at meals, and destitute of all means of ordinary healthful living, not to mention fresh air and exercise, the condition of "shopwomen" is such as to call for indignant protest from every woman who lays claim to any of the tenderness and feeling of her sex.

♦ ♦ ♦

THE recent exposure (see HEALTH, No. 15) of the dietetics of shop-girls, followed by the disclosures of "M.A.," place this important social question in a new light. If the employers have anything to say on "the other side" we shall be only too pleased to publish their communications. Unless the statements to which we refer are refuted, we must pronounce the treatment of shopwomen most barbarous; and we earnestly trust those ladies who are well and favourably known in the world of philanthropic sayings and doings will once again espouse the side of the oppressed. We have heard of the "poor clerk;" it seems the poor, corseted, underfed shopwoman, toiling in a labour-market overstocked with her kith and kin, should certainly be added to the list of claimants for our practical sympathy and aid.

♦ ♦ ♦

THE "jerry-builder" has been at his work again. Thomas Barr, described "as the builder of a number of houses at Highgate," London, appeared, by deputy, before the magistrates at the police-court of his district, to answer a charge of having used "bad mortar" in the erection of

two houses in Lunot-street. The "mortar" appears to have been complimented by the above description. A sample shown to the magistrates was described by them as "nothing more than garden-mould." The ingenuity of the "jerry-builder" seems to develop with time. Formerly, the species was given to employ road-scrappings for mortar; now, he has reached "garden-mould." In the next advance, mortar will be dispensed with entirely; and possibly after bricks and stones fall out of the reckoning, we may return to the mud huts of our ancestors. Mr. Barr has found, however, that our ideas of house-construction are possibly not quite so advanced as his own. He was heavily fined, and the domiciles doubtless designed by Mr. Barr as the "happy homes" of Highgate, will probably be pulled down. If we might suggest an amendment of the law in such cases, it would be that of giving the "jerry-builder" imprisonment without the option of a fine, and with hard labour, for his unsanitary misdeeds, which ruin the health and happiness of the people.

♦ ♦ ♦

EVERY one has seen or heard of the artificial "incubators" in which eggs are hatched. It has been reserved for the ingenuity of a French *savant* to extend his idea of the "incubator" to include the care and upbringing in the early days of their life of delicate and undersized infants. Under the name of the *couvreuse*, Dr. Tarnier had constructed in 1880 a wooden box 2 ft. 8 in. long by 2 ft. 4 in. broad, and 2 ft. 4 in. high. A layer of sawdust between the double sides of the box retains the heat, while the box itself has an upper space for the infant (or infants) and a lower compartment, wherein warm water from an outside boiler is contained—the said boiler being heated by an oil lamp. A temperature of 86° F. is maintained in this little house, and by the use of the thermometer the heat, of course, can be exactly regulated. The cradle is withdrawn from the upper compartment through an opening in the side of the *couvreuse*; and the air, which is admitted below, reaches the little inmate in a warmed condition. Considering the great risk which delicate infants run from colds, &c., this ingenious contrivance would seem to be well adapted for its purpose. At least, Dr. Tarnier's experiments have been highly successful in France. The nursery of the near future may, therefore, contain a *couvreuse* among its ordinary furniture.

♦ ♦ ♦

A PARAGRAPH has been going the usual rounds respecting frogs as food. We learn that our American cousins regularly eat frogs at home, and have these amphibians served up at all first-class restaurants and hotels in Boston. This city is supplied from adjacent towns, from Cape Cod, from Maine, and elsewhere. New Orleans consumes from 50 to 100 dozen per week, the demand being greater than the supply. Prices in Massachusetts market range from 30 to 50 cents per dozen. All kinds of frogs are said to be eaten, but the "speckled frog" is regarded as the most tender.

♦ ♦ ♦

THE "Frog-eating Frenchman" was, not so very long ago, an object of supreme British contempt. But "the whirligig of time brings in its revenges;" and the hind-quarters of frogs, tinned like lobsters, can now be had from any Italian warehouseman. In London, we are informed, there is a developing trade in the "puddocks," as the frogs are named in the north country. The frogs at present consumed at home come, we believe, from the Continent. But the American "bull-frog," whose tremendous



croak "makes the night hideous" in his native regions, may soon be imported, like the lobsters and oysters of the New World, should the demand increase.

\* \* \*

THERE is, after all, nothing more singular in a frog-dietary, than in a cod, oyster, shrimp, or lobster one. Of the four, the frog is possibly the cleanest feeder—we all know that lobsters, crabs, and cod are by no means "particular" in their selection of food. Not that the question of the food of the animal matters at all. What we eat becomes part and parcel of us. The protoplasm of the sheep, as Professor Huxley put it long ago, becomes human protoplasm when we eat a mutton chop. The matter of the one animal becomes transformed in our "inward laboratory" into the matter of the other. So that we do not eat the animal's food, but that food changed into itself.

\* \* \*

AMONGST the animals eaten by foreign nations, the sea-urchin, or "Echinus"—whose prickly shell we find cast up on the beach—a member of the star-fish race, and the cuttle-fishes, stand out prominently. Sea-urchins' eggs, like those of the sturgeon, are a high delicacy on the Continent, and the cuttle-fish is valued in the same and in other regions. We have tried the common squid, a familiar cuttle-fish of our own coasts. This animal, properly stewed, is not unlike tripe in taste; boiled, it resembles cod somewhat. Next time we shall try it curried, a fashion of preparing the animal which, we learn, is in high favour in China. The cuttle-fish, it may be remarked, is allied to the oysters somewhat; and this fact may reconcile the notion of its value as a possible addition to our list of food "fishes."

\* \* \*

ONCE upon a time—incited to the experiment by a remark of Mr. Gosse—we ventured upon a trial of those lovely animals the sea-anemones, familiar in all our rock-pools. The attempt at cooking was not a success. In the absence of any definite instructions, we boiled them and stewed them. They turned out extremely tough under both forms of treatment, and in taste somewhat resembled very tough salt fish. Possibly, when properly cooked and "done up" with skill by some disciple of Soyer, the sea-anemones would rank high as delicacies. There is a wide future before the enterprising spirit who, overcoming insular prejudice, may introduce denizens of the deep at present unknown to public notice.

\* \* \*

THE "sea-slugs"—more properly the "sea-cucumbers" or "trepangs"—should be alluded to in speaking of new foods. The Chinese value these animals highly. The "trepangs" are allied to the star-fishes, and a large trade is done between China and the Eastern Archipelago, where the animals are collected. "Trepang" may also in time find its way to our tables. Where the frog has in part succeeded, it is not too much to say the "trepang" may in time be also found.

\* \* \*

WE have been requested to state that the Reports of Inspectors to the Medical Department of the Local Government Board can be had of Messrs. Knight & Co., 90, Fleet-street; Messrs. Shaw & Sons, Fetter-lane; Messrs. Haddon, Best, & Co., 227, Strand; and Messrs. P. S. King & Son, King-street, Westminster. The valuable information concerning the investigation of epidemics, &c., contained in these reports render the possibility of their purchase by the public a health-boon of no mean order.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### HYDROPHOBIA: ITS NATURE, CAUSES, AND TREATMENT.

BY DR. ANDREW WILSON, F.R.C.S.

FIRST PAPER.

A FEW years ago a scene, which, for brutality and cruelty committed under mistaken motives, could hardly have been equalled, was enacted in one of the streets of a northern city. In the newspapers of the following day appeared a paragraph stating that a mad dog had been destroyed in the streets of the city, and the public were accordingly put on the alert regarding the supposed advent of an epidemic of the dreaded disease. It was perfectly true that a dog had been destroyed, but it was not true that the dog was suffering from rabies, or canine madness. The words of a newspaper correspondent who witnessed the butchery of an innocent animal are clear and distinct. The dog—a black retriever—comes upon the scene, pursued by a policeman. That official is accompanied by the usual retinue of message-boys and *canaille*, to whom any dog, pariah or otherwise, is an object of extreme interest, as admitting of a display of the savage traits and hunting instincts which the said urchins have possibly inherited from their far-back ancestors, and which the progress of civilisation has not yet succeeded in eliminating. One of the said message-boys discharged his basket, in lieu of a nobler missile, at the retreating animal, which in hopes of safety and protection, no doubt, quietly followed two men who were walking down the street in question. Hearing the uproar, however, one of the men turned, seized the dog by the ear, and, as was perfectly natural, and, in my humble opinion, a perfectly just and legitimate reward for his interference, got bitten for his pains. The valiant flying squadron of message-boys, headed by the representative of law and order, had meanwhile arrived upon the scene. It was no stalwart man the policeman had to attack, nor even, according to his theory, no doubt, a reasonable or sensitive being. So, with a stolidity which renders one somewhat compassionate for the human beings who may fall under this particular policeman's grasp, he drew his staff, and, to use the term employed by the newspaper correspondent, "rained" down blow after blow upon the head of the defenceless animal. For five or ten minutes this sickening scene continued, we are told, in a city of culture and education. Then the dog's head was placed in a noose, and willing hands pulled one end of the rope one way, whilst equally willing hands pulled the other way, exemplifying a kind of Thuggish experiment in strangling the animal. With its head well-nigh pounded to a shapeless mass, with blood welling from its eyes, nose, and mouth, and surrounded by a crowd of savages intent on asphyxiating it, the unfortunate animal nevertheless had the impertinence to continue to exist. Elevated in the air by the efforts of the contending parties in the work of strangulation, the policeman was seen to kick the dog in the most brutal manner, and the final act in this tragedy was wrought by a smith, who, more humane than his neighbours, struck the suffering animal with his hammer, and put an end to its sufferings. The secretary of that most admirable institution, the "Home for Lost Dogs," in a letter to the *Standard*, gave a case serving as an admirable parallel to the canine massacre just described. As a police-



constable was bringing a homeless pug-dog to the institution at Battersea, the animal took a fit close to the "Home." Immediately there arose the usual cry of "mad dog," and an excited crowd advocated the destruction of the animal. Fortunately one of the officials of the "Home" appeared on the scene, and at once saw that the dog was merely suffering from a simple fit. The patient was taken home, appropriately treated, and soon recovered. The large experience of the officials of the "Home" testifies to the extreme rarity of cases of rabies in the streets. And the slaughter of many an unfortunate dog has, as regards suspected rabies, been therefore as unjustifiable as would be the sudden execution of a human being in an epileptic fit, because the *vox populi* elected to pronounce the patient hydrophobic.

Such is the history of a street scene which is unfortunately typical of these days. The justification of the whole procedure, I apprehend, will be that of saying that the dog was mad, and was therefore a fit subject for execution. I admit that, if mad, the dog should have been killed, but I also contend that it should have been killed in a respectable and less savage and cruel fashion. Allow that the dog was mad, and of course society and the law will ratify its death—common humanity and the same law, however, demanding that it shall not be tortured. But mark the instructive sequel to the story. A local newspaper in due course informed the inhabitants, that a veterinary surgeon had prepared a report of his post-mortem examination of the large retriever dog which had been killed in the streets in the previous week. The report set forth that "the lesions presented were not such as to lead one even to assume that the dog had suffered from rabies." This is strong and plain language, and one can only hope that the member of the police force who assaulted the innocent animal, and the wayfarers who pulled the rope, have read the veterinary surgeon's remarks, and have duly reflected on the morality of their procedure. So, after all, the slaughter of the dog was unnecessary, and was, moreover, considering the harmless character of the animal, a piece of diabolical cruelty. A recent writer remarks that boys look upon dogs as lawful objects of assault with stones and with pins ingeniously driven into pieces of wood, which are hurled, *à la* the boomerang, at dogs as they pass. Hence the ease with which the cry of "mad dog" is raised. A dog more plucky than his kind will turn upon his assailant, who decamps, and, crying "mad dog," speedily secures his own safety, a large modicum of sympathy, and the death (by torture) of his victim.

I have dwelt upon what has been termed a common street scene in order that my readers may form for themselves an opinion regarding the tortures to which innocent animals are subjected by unreasoning prejudice, and also for the purpose of influencing the public at the outset of our inquiries in the cause of intelligence and humanity, as against brute ignorance and unnecessary cruelty. The advantage of the "Dogs' Home" in London was admirably illustrated by the procedure of the Glasgow authorities some time ago, when the cry of "mad dog" was raised in the commercial capital of Scotland. Every dog not provided with a muzzle and the name of the owner, was seized by the police, detained for a short time by the authorities, and if not claimed at the expiry of the allotted period was destroyed. Hundreds of valuable dogs were thus either sacrificed or were placed in extreme danger of their lives, and without, in the vast majority of cases, the slightest pretext for the slaughter. Such a procedure exemplified with a vengeance the apothegm that "prevention is better than cure." Only, the proverb might have been just as forcibly illustrated by the establishment of a temporary

"Home" for the reception of the perfectly healthy stray dogs, whose owners would be only too glad, I imagine, to contribute to the support of the institution in consideration of the safe return of their pets. In what follows I may be able to show that the subject of hydrophobia is one concerning which much misconception exists, and regarding which much needless alarm is yearly caused. The leading features of the malady, its nature, and the modes of prevention and cure which modern authorities agree in recommending and using, may also be duly noted.

## ELECTRICAL APPLIANCES AND THEIR EMPLOYMENT AS AIDS TO HEALTH.

By WM. LANT CARPENTER, B.A., B.Sc.

### SECOND PAPER.

IN our last article we passed in rapid review the principles upon which all the various methods of producing electricity for its application to the human body depended. Before proceeding to develop these at greater length, to explain more in detail their construction and use, and to give tests for their electrical efficiency, it will be desirable to say a few words of warning upon so-called "electrical" appliances generally.

It has come to the knowledge of the writer, in the course of his investigations, undertaken specially for these articles, that many of these so-called *electrical* appliances are electric only in name, and are in reality *magnetic*, *i.e.* contain concealed somewhere in the appliance, pieces of magnetised steel. These are sometimes inserted in the back of a hair-brush, or sewn in between two thicknesses of cloth in the substance of a belt. In some cases even the steel busks of a corset are magnetised, and it is actually claimed for one "Electric Corset" that it will in most cases cure "a tendency to extreme fatness or leanness," and that it will "give a more graceful figure than any other class of corset." We mention this to show the extravagance of the claims which are made on behalf of some of these appliances.

Now, there is only one set of conditions under which an electric current can be produced from a magnet, and that is when either the *magnet is moved* in the neighbourhood of a substance which conducts electricity, or, what comes to the same thing, when a conductor is moved through a magnetic field. The field of a magnet is just that portion of space which is within reach of its attractive influence. Hence, it is impossible that the mere wearing of any pieces of magnetised steel near the person can produce electric currents through his or her body, as a whole; since neither the magnet nor the body move separately, any motion of the body being, of course, shared by the magnets. But further, the development of any sensible amount of electricity in this manner requires the use of magnets of very much greater power than could be even carried about the person conveniently, much less concealed in any article of clothing. Hence, also, the motion of the magnet, when the head is brushed with an "electric" (!) hair-brush, is utterly insufficient to produce electric currents powerful enough to overcome the high resistance of the tissues of the body, and particularly of the epidermis, or scarf-skin, *which, when dry, is almost an insulator*.

The efficiency of the magnets used in these appliances may be tested at any time by bringing them near an ordinary compass-needle, when, as is well known, the North-pointing pole of the compass-needle will be repelled by the North-pointing pole of the magnet, and will be attracted by its South-pointing pole, according to the ordinary



magnetic law that "like poles repel, and unlike poles attract, each other." Here, however, we must most emphatically warn our readers that *a mere compass-needle balanced on a pivot is not a galvanometer, as it is erroneously represented to be by vendors of electrical appliances.* What the distinction between them is will be seen in the next article.

As to the question whether any real effect is produced upon the tissues of the body by the proximity of magnetised steel to them, we can give no absolute opinion. We know that the great Faraday, whose "Experimental Researches on Electricity and Magnetism" is familiarly known as "The Electrician's Bible," expressed a decided opinion that magnetism had no such action. We have also been unable to meet with any medical or scientific opinion to which, in our judgment, weight should be given, in favour of any effect whatever arising from the mere proximity of even a very powerful magnet to the skin—in fact, the evidence is all the other way. A medical friend of the writer's has repeatedly held his head between the poles of an exceedingly powerful magnet, without feeling any influence from it. It cannot be denied, however, that iron and oxygen, two of the most important substances in the blood, are both magnetic—i.e., capable of attraction by a magnet, and of assuming those properties which are generally summed up under the name "polarity." Hence it is within the limits of bare possibility that weak magnets worn very near the skin may have some slight superficial action upon the blood—probably in the direction of arresting the circulation at that part. That such action, if it does exist, should be capable of effecting the wonderful cures claimed for "magnetic" appliances, now so widely sold, is a supposition for which not a tittle of evidence can be found in medical science.

Our purpose now, however, is to point out the distinction between *magnetic* and *electrical* appliances, and to explain the only conditions under which electricity can be obtained from magnetism—viz., by *motion*—conditions which are fulfilled in all machines for developing electricity from magnetism, from the smallest "medical magneto-electric machine" of the optician's shop, to the largest dynamo machine yet constructed (viz. Mr. J. E. H. Gordon's, of 22 tons weight,) for the purposes of electric lighting. It is the more necessary to insist on this, since this distinction and these conditions are by no means clearly understood even by medical men whose names are quoted as approving of some particular appliance, the terms "magnetic," "electric," "magneto-electric," and "electro-magnetic," which have a distinct and definite meaning among electricians, being used in such testimonials in a haphazard kind of way which is extremely misleading and confusing to the readers thereof. For example, in a pamphlet before us, recommending certain belts, &c., which are purely magnetic (and do not pretend to be anything else), occurs the following quotation, in support of "curative magnetism," from the *Medical Times*—the date is not given:—

"Medical agents will do much in the treatment of disease, but magneto-electricity will do more, and produce a more decided result; while a much more permanent advantage may be looked forward to from its proper application."

In this passage the mere statement may be correct, *quâ* statement, but the inference which the compiler of the pamphlet wished to be drawn was, that the appliances therein praised, would produce magneto-electric currents—an inference not warranted by the facts of the case. The magneto-electricity referred to in the extract would have the same action on the body as the electricity produced by purely chemical means, usually known as voltaic or

galvanic electricity. The difference, to use the language of physical science, always employed by the writer in his public lectures,\* is merely that between one transformation of energy and another. In magneto-electricity the electrical energy is derived from mechanical energy (i.e., mechanical motion is converted into electricity through the medium of a magnet); while in voltaic (or galvanic) electricity the electrical energy is derived from the energy of chemical attraction between the zinc of the battery and the oxygen of the water. The ultimate result, viz., the electrical energy produced, *is the same in both cases*, and by no tests could one be distinguished from the other. No electrician could say, with certainty, of a current from an unknown source, flowing along any given wire, whether it was derived from a battery, from a continuous-current magneto-electric machine, or from a continuous-current dynamo-machine.

Before dismissing this subject, we must again point out the faint possibility (for it amounts to nothing more) that the circulation of the blood in the proximity to magnets worn upon the person, may cause *very feeble* electric currents to circulate *momentarily* in those portions of the blood that pass through the fields of these magnets. There is no proof, however, that any such currents are produced, and if produced, they can only be momentary in their duration, and, owing to the slow rate of the circulation in the capillary vessels, they must be exceedingly feeble. Moreover, in all these appliances, the magnets are set in the *very worst possible position* to produce such currents, viz., parallel to the surface of the body (like the magnetic busks in "electric" corsets), instead of being at right-angles to it. The lines of magnetic force come out in tufts from the *ends* of a magnet, and not from their sides; hence to produce the maximum effect, the ends of the magnets and not their sides should point towards the surface of the body.

Into the medicinal action of any of these appliances, whether magnetic or electric, it is not the purpose of the present writer to enter. That certain cures have resulted *after* the use even of those which, from an electrical point of view, are utterly inefficient, he does not doubt. What he and many others do doubt, however, is that the cures have been effected *by* the appliances, i.e., in the sense in which, to use a homely illustration, an opium mixture is a cure for sleeplessness. The old maxim, *post hoc, ergo propter hoc*, is a very dangerous one to apply in these cases. In many instances, as was pointed out on Feb. 22, 1882, by Professor Sylvanus Thompson, of Bristol, at the Crystal Palace, and also at the end of Chap. III. of his "Elementary Lessons in Electricity and Magnetism" (a little work which we can recommend in the strongest terms to those seeking such information as it gives), the curative agent is probably not magnetism, but flannel. Further, as we hinted in our last article, and as the writer also endeavoured to show in a letter to the Editor, which appeared in this journal for July 13, the element of *faith*, i.e., mental attention with the confident expectation of a cure, enters very largely into the cases of alleged cure by appliances really inefficient, as it does also into those by quack remedies of various other kinds; and an intelligent medical man would probably be the first to admit that, in many cases, faith in him, and in the measures taken by him, had a large share in his patient's recovery.

Having now dealt sufficiently with the special characteristics of purely magnetic, as distinguished from electric, appliances, we shall, in the next article, give certain simple

\* *Vide* "Energy in Nature," by the author of these articles. Shortly to be published by Cassell & Co. (Limited).



tests by which the production (or otherwise) of an electric current outside the body by any given piece of apparatus can be ascertained, thus furnishing the means of determining the efficiency of any appliance.

In conclusion, we would warn our readers against putting too much faith in the testimonials which appear in the pamphlets issued by the vendors of these appliances. Without imputing a want of *bona fides*, it is obvious that the vast majority of them are written by persons destitute of scientific education, and incompetent to form an opinion upon just and valid grounds. In many instances the names, addresses, and dates are either withheld, or are so indefinite that identification of the writer is almost, or quite, impossible. In some cases, we regret to say, the resemblance of the name of the writer of the testimonial to that of a really eminent scientific man is used in such a way as to make the inference natural that the writer really is that eminent man—and so with various other devices, which can only be characterised as “tricks of trade.” Press notices of the ordinary character, also, are in these matters of little or no value. The writers are not scientific men, and hence are not capable of forming a trustworthy judgment upon matters which it requires education of a special character to understand. The vendors of quack electric appliances, therefore, dare not appeal to the experts who are attached to the staffs of the papers devoted to electricity and kindred sciences, and it is the opinion of these men alone, among the journalists, that is really worth having in such cases. In the *Electrician* for July 7th will be found a letter (which will be quoted in our next issue) from Mr. J. L. Pulvermacher, giving a valuable list of medical and scientific works on medical electricity. We are anxious not to be misunderstood upon this general question of testimonials. We are not indulging in a wholesale condemnation of them; for there are instances of many from really eminent men—medical authorities and otherwise—which have come under the notice of the present writer, about whose genuineness there cannot be the smallest doubt, he having taken great pains to verify them. But, on the other hand, there are many the authenticity of which there is grave reason to suspect, and in these matters, as in all similar ones, we say, *caveat emptor!*

STATISTICS, or “figures” as they are familiarly called, are often alleged to be capable of proving anything—when judiciously applied. There seems, however, no reason to doubt that the recent statistics of tobacco-consumption give us a close approximation to the truth. The relative extent to which tobacco is consumed in various nations is set down for England, France, and Russia, 5; Italy, 7; Cuba, 11; Austria, 14; Germany and North America, 15; Belgium, 24; and Holland, 28. Mexico is said to surpass every other country in respect of the consumption of tobacco.

MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphate of Lime. “Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals.” — *Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]

## Personal Health

“Be timely wise;  
With health all taste of pleasure flies.”—Gay.

### THE TREATMENT OF CHOLERA.

(Concluded.)

DR. MAPOTHER (*Medical Press and Circular*, Sept. 12, 1866) reports five cases of cholera, in the treatment of which he used the Calabar bean. He considers that the state of collapse indicates a highly-excited condition of the vaso-motor nervous system, inducing spasm of the muscular tissue of the arteries, and consequent constriction of their calibre. The Calabar bean possesses the power of breaking or temporarily paralysing the vaso-motor influence.

Dr. Duncan Menzies (*Lancet*, June 23, 1866) speaks highly of the utility of iced water in *small portions*. He put this treatment into practice during his stay in the upper provinces of Bengal, which extended over a period of six years, and found it very successful, whether the case was seen early or late in the disease. The improvement goes on until the stomach regains its normal tone, when medicines will not only be better borne, but also absorbed.

Dr. Alexander Smith (“Fever and Cholera,” pp. 301, Calcutta, 1873) regards the difference between cholera and simple continued fever as one only of degree, and recommends the exhibition of quinia, which should be given hypodermically whenever the stomach is too irritable to retain it.

Dr. Brown-Séquard (*Boston Medical and Surgical Journal*) says, of all the means of treatment he has employed (and his trials have been very numerous), none has given by far as favourable results as the use of opium in extremely large doses, every twenty minutes so long as the cholera symptoms exist. If there is no great vomiting, or if the vomiting is checked by Rivière's potion (a carbonate and tartaric acid, taken separately, one immediately after the other, disengaging carbonic acid inside of the stomach), the laudanum is given by the mouth. If the vomiting is frequent, the laudanum should be injected into the bowels, but with the precaution of having a thorough washing of the large intestine by a previous enema, to bring out all the contents of that tube. In bad cases a dose of twenty minims of strong laudanum (Sydenham's) is advised every fifteen or twenty minutes, until the cholera symptoms cease, or until some slight symptoms of opium poisoning appear. This mode of treatment does not succeed when the blood has been considerably altered by the loss of a very large amount of its salts. Of course, these rules are not to be followed in cases of mere cholera, or in the premonitory stages of cholera; but even then opium, in much smaller doses, is also the best means. The subcutaneous injection of morphine is, perhaps, preferable to laudanum. Against the lack of urinary secretion Dr. Brown-Séquard has employed with benefit, in some cases, the actual cautery on the loins.

Dr. Burg (monograph) points out the almost entire immunity from cholera enjoyed by workers in copper, and recommends the salts of this metal, the black oxide (particularly for children, as it has no taste) and the double chloride of copper and ammonium, with which he proposes to make a tincture. For an adult, he prescribes five centigrammes (a little less than one grain) of the double chloride by the mouth every two hours, and fifteen centigrammes (nearly three grains) by the rectum every six hours, the doses being proportionately less for children, and in the premonitory diarrhoea. For the cramps and other painful



phenomena, he urges, that the copper should be applied in its metallic form; a most convenient way, he adds, is supplied by copper coins connected together, so as to form a sort of belt.

Dr. William Pepper (*Philadelphia Medical Times*, July 12, 1873) recommends the use of bromide of potassium on the collapse of cholera. He advises it given in doses of 45 grains in 3 oz. of water every ten minutes, by mouth or injection. The drug, he thinks, has a wonderful power of quieting irritation of the sympathetic nerve, which irritation he regards as the source of the symptoms of collapse.

Dr. Hodgkin (*St. Louis Medical Journal*) states a plan which he had used in treating cholera in 1866. He was so encouraged by its results as to present it to the St. Louis Medical Society as worthy of their consideration. He injected subcutaneously during the stage of collapse from a sixtieth to a thirtieth of a grain of sulphate of atropia. In addition he injected salt water into the bowels. The action of atropia in paralysing the peripheral extremities of the spinal nerves, in stimulating the contraction of the arterides, and in increasing the beats of the heart, is well known.

Mr. Augustus R. Hall (*British Medical Journal*, Sept. 21, 1878) emphatically recommends the following course of treatment:—When premonitory diarrhœa is observed, let all alkalies and opium be specially avoided, as well as alcohol. Dilute sulphuric acid, in half a drachm to drachm doses, in a bottle of gingerade or some syrup and water, diluted as much as will only give a strong, but not disagreeably, acid flavour, will probably be found the best thing to take, as often as may be required. If collapse should set in, or the patient be first seen in that stage, inject chloral at once. Let the clinical thermometer determine the amount to be administered. The lower the readings, the faster the injections. In very severe cases, when the temperature is down nearly to 90 deg. Fahr., as much as one drachm may be necessary before a decided effect is produced. Take frequent observations with the thermometer, and be guided by it. Give the patient plenty of cold water (not iced) to drink. Under no circumstances give wine, spirits, or opium. The strength of the solution employed may be laid down at one in ten; if it be stronger than this, it will probably cause irritation, ulceration, or even sloughing. Besides, if the specific gravity of the solution be too high, it will probably not be absorbed as it ought to be. The solution should be injected, not merely under the skin, but into the substance of the muscle.

OPHTHALMIA, influenza, bronchitis, pneumonia, diarrhœa, dysentery, and diphtheria hold the same relation to badly-constructed, poorly-plumbed, ill-ventilated, and overcrowded school-houses, as do erysipelas, blood poisoning, and childbed fever to badly-constructed, filthy, and unventilated hospitals. Of like nature are the same kind of diseases in the household, hotel, village, and city. Moreover, of like relations to the air and immediate surroundings are many diseases to impurities connected with trades and factories of various kinds, and, above all, to marshy districts. But in regard to all such preventible diseases, the general practice in health administration hitherto has been to search for causes after their fatal results have been declared, instead of precautionary measures for their prevention.

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## The Body and its Structure

"The proper study of mankind is man."—Pope.  
"What a piece of work is a man!"—Shakespeare.

### NO. XV.—THE BUILD OF A BONE.

By A. J. MANSON.

MANY persons unacquainted with the elements of anatomy and physiology imagine that bone, which to the eye seems so hard and non-living, is really destitute of life, and possesses no vital activity whatever. Bone, in this light, appears to be regarded as a dead or non-vital part of our bodily belongings. We know that bones grow and increase in size, and that when they are not properly nourished, deformity—most commonly seen in bandy-legged children—is the result. But the popular notion of bone as a non-living part of our frame still survives; and a very distinct error is thereby propagated. It may be well at the outset to note that bones and teeth are essentially different structures. They differ not only in their manner of formation, but also in their build. Under the microscope they present wide variations in structure, and are ranked by the anatomist in utterly distinct categories of bodily organs. The teeth will be duly treated later on; but it is permissible here to remark, that they are really skin-structures. That is to say, they are formed from a layer of our bodies which belongs to and is ranked with the skin, whereas bones grow in an utterly different fashion, and belong to a deeper layer of structures than the skin.

Bone, as regards its *chemical composition*, is found to consist of two chief parts—an "animal" part and an "earthy" or "mineral" portion. The former is represented by the gelatin which we can boil out of a bone, the latter consisting of mineral compounds, and chiefly of *phosphate of lime*. When, as in the disease known as "rickets," the mineral part of the bones is not properly added to the *cartilage* or *gristle* of which bone in its early stage consists, the skeleton of the child is arrested in its growth. Curvatures of the spine and deformities of the limbs succeed, and unless the case is taken in time, the little patient succumbs to a serious form of wasting disease. Part of the treatment of this and other bone-diseases consists in the administration of lime in the food. As a matter of fact, nature's own food—milk—contains the minerals necessary for bone-growth. Lime is contained in the water we drink; we obtain minerals also from the bread we eat, from vegetable matters, and even from flesh itself. So that we readily enough discover the high importance of lime and its compounds as articles of food, when we reflect that the bony framework, already described in these articles, consists largely of this mineral. Like the corals themselves, or the oyster and lobster and its neighbours, we are thus lime-building animals. Of all the minerals found in the animal economy, lime (or calcium, as it is scientifically named) is that most widely absorbed.

When we cut across a long bone, such as the thigh-bone, we see that is hollow inside. The hollow of the bone is filled with *marrow*, a fatty substance which doubtless plays a part in the nourishment of the bone. The bone itself is, however, apparently of solid and dense character. At the ends of the long bones, and in the *vertebræ* or joints of the spine, as well as in the ankle-bones and elsewhere, the bone is of a more open, or as the anatomist calls it, a "cancellous" nature. Outside, the bone is covered with a tough membrane called the *periosteum*, and we know from the experiments of the late Mr. Syme and others,



that the "periosteum" (a name derived from the Greek, and meaning "around the bone") has the power of making new bone when the original matter is diseased. This discovery is of immense value in saving pain and deformity; for the surgeon now simply removes the dead parts of the bone, and the "periosteum" produces the new material. A diseased bone, instead of being treated as of old by amputation of the limb, is nowadays cured more simply, and certainly more satisfactorily, because the limb is saved to its possessor.

Under the microscope, a thin section of bone, cut cross-wise, shows us (Fig. 1) that the bony substance, apparently so solid in its nature, is riddled with minute holes (*a a*). These are really canals which we have cut across in making our section. They are called *Haversian Canals*, after Clopton Havers, a physician, who first drew attention to them. In the living bone, these canals contain the *blood-vessels* which nourish the living parts of the bone. So that primarily we become aware of the fact that bone is everywhere permeated with bloodvessels, and demands a large blood-supply like most other parts of our frame. Now, look again at the magnified cross-section of our bone (Fig. 1). We see that around each "Haversian Canal" (*a*), there are grouped circles of small, irregularly-shaped spaces, marked in black, and indicated by the letter *b*. Those spaces are called *lacunæ* — "lacuna" being the

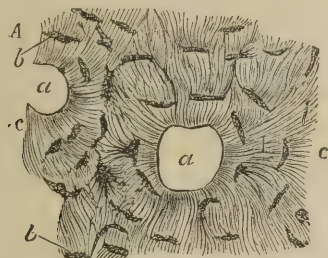


Fig. 1.—A Cross-section of Bone (highly magnified).

Latin for a pond or pool. Notice lastly that these little spaces or "lacunæ," are all connected together by very fine channels, which appear in our illustration as fine lines. To these channels the anatomist gives the name of *canaliculi*, a name which is simply the diminutive of the word from which our familiar term "canal" is derived. We may form a plain, but correct, idea of the arrangement of these parts of a bone if we imagine each "Haversian Canal" (*a*) to represent a central lake. Around this lake are grouped in circles many smaller and irregularly-shaped lakes—these are the lacunæ (*b b*); whilst, lastly, the "canaliculi" may be compared to little rivulets which run from one lake to another, and thus bring them into communication one with another.

If we make a section of bone-substance longwise, instead of across, we may, under the microscope, see the parts we have just described in another aspect. Cut down length-wise, as in Fig. 2, we see the "Haversian Canals" (*a a*) in a side view; the lacunæ, or little lakes (*b b*), are also seen in all their numerous array, and the connecting canals are also exhibited in the fine lines already mentioned.

What, it may now be asked, is the meaning of this structure? The answer to this inquiry is found in a knowledge of the parts we see in a *living* bone. Viewed in the living or "recent" state, we see the "Haversian Canals" containing the bloodvessels, which, as we have seen, bring blood to the bone for its nourishment, and, in the growing body, for its increase. It is from the minerals of the blood that new bone is formed, and it is from the nourishing matters of which the blood consists that all bones, young or

old, derive their daily food. The "lacunæ," or little lakes of the bones (*b b*) are found, in a living bone, to contain the living matter, called *protoplasm*, which is found wherever life exists. So that we discover that a bone contains a very large amount of this living jelly; and we further note that the little masses of protoplasm which fill up the "lacunæ," or lakes of bone, are brought into communication with one another, through the delicate threads of the living jelly, which run along the little canals. If, therefore, it were possible for us to lift the living matter completely out of a bone, we should see that the protoplasm would appear in the form of a delicate spider's web. The threads of the web would represent the protoplasm which filled up the canals, and the little masses of protoplasm, which would be everywhere seen in the web, would represent the living jelly contained in the lakes or "lacunæ."

Bone, then, is seen to be a highly-living structure, and to be everywhere riddled with the vital "protoplasm," which, throughout the whole animal and plant worlds, is the only substance known to us as a life-exhibiting and life-possessing substance. When we learn these facts about bones, we cease to feel surprised at their growth and decay, for, like all other living structures, they have their periods



Fig. 2.—A Long-section of Bone (highly magnified).

of development, maturity, and decline. We may also see in such a study why the due nourishment of a bone is an absolute necessity for its healthy growth and well-being. If supplied with its proper mineral and other constituents, it grows and increases in size. If neglected, and if improperly nourished, or if, through disease, nourishment cannot be properly carried out, the bone languishes, or may ultimately die. In the light of these facts, a bone is seen really to represent the body at large; for, like the whole frame or "individual," the bone can only exist perfectly and healthily when the proper conditions for its growth are supplied.

It may prove interesting if we add that the actual sizes of the various parts seen in the microscopic examination of a bone are as follows:—The "Haversian Canals" measure in diameter about the one six-hundredth part of an inch; whilst the lacunæ, or lakes, measure each about the one eighteen-hundredth part of an inch across.

DR. SAGE'S CATARRH REMEDY (O. M.).—According to Schaedler, this is a mixture of 20 parts of common salt, 1 part of camphor, and 1 part of carbolic acid. It is to be dissolved in water, and injected or sniffed up into the nose.

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be *heated* before being consumed."—[ADVT.]



## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### HOW TO CLEAN SPONGES.

1. **FIRST** clean, wash, and squeeze out the sponges; then dip them into a two-per-cent. solution of permanganate of potassium. Here they become quite brown (from separated manganic oxide); after ten minutes, they are taken out, washed in water, again well pressed, and then dipped into a two-per-cent. solution of oxalic acid [we prefer diluted sulphuric (1:20) or diluted hydrochloric acid (1:15)], in which they become perfectly white. Success mainly depends on the soaking in the permanganate solution; if they are macerated too short a time, they do not become thoroughly white; if too long, they are apt to become rotten (Dr. Siemens).

2. First clean the sponges by immersing them in diluted hydrochloric acid. Then soak them in the bleaching liquid, composed of hyposulphite of sodium one part, water twelve parts, and hydrochloric acid two parts. After some time they are removed and well washed. To the last wash-water a little glycerine is added in order to preserve the sponges soft. The liquid is best pressed out by passing the sponges through a clothes-wringer.

3. Toilet sponges, which have been in use, often become peculiarly slimy, fatty, and almost useless, owing to some action of the soap. Mere washing in distilled water does not remove the difficulty. It may be overcome by using fused chloride of calcium. The sponge is pressed as much as possible, placed on a plate, the powdered chloride of calcium sprinkled upon it, and allowed to deliquesce upon the sponge. After about half an hour, the sponge may be washed in water and dried, when it will become white (M. v. Valta).

Though the above processes furnish a satisfactory product, yet the following combination and modification of two of the above processes, which was devised by Mr. John Borham, and has been in use in many hospitals for a considerable time, will be found to work better still:—

Soak the sponges, previously deprived of sand and dirt by beating and washing, in a one-per-cent. solution of permanganate of potassium. Then remove them, wash them thoroughly with water, and press out the water. Next put them into a solution of  $\frac{1}{2}$  lb. of hyposulphite of sodium in 1 gallon of water, to which 1 oz. of oxalic acid has been added, and leave them in the solution for fifteen minutes. Finally, take them out, and wash them thoroughly.

By this treatment the sponges are rendered perfectly white. Many sponges contain a more or less dark-coloured brownish core. If treated only with permanganate and acid, the core is either not bleached at all, or, if it has been somewhat bleached, the tint is apt to grow again darker. By the above modification, every portion of the sponge is rendered white, and remains so.

### DOMESTIC FILTERS.

THE subject of domestic filtration is one which, in a town with a water-supply like that of London, possesses peculiar interest, and is of no little importance. Most people imagine that by once going to the expense of a filter they have secured for themselves a safeguard which will endure throughout all time without further trouble. No mistake could be greater, for without preserving constant

watchfulness, and bestowing great care upon domestic filtration, it is probable that the process will not only entirely fail to purify the water, but will actually render it more impure than before. For the accumulation of putrescent organic matter upon and within the filtering material furnishes a favourable nest for the development of minute worms and other disgusting organisms, which not unfrequently pervade the filtered water; whilst the proportion of organic matter in the effluent water is often considerably greater than that present before filtration.

Of the substances in general use for the household filtration of water, spongy iron and animal charcoal take the first place. Both of these substances possess the property of removing a very large proportion of the organic matter present in water. They both, in the first instance, possess this purifying power to about an equal extent; but whereas the animal charcoal very soon loses its power, the spongy iron retains its efficacy unimpaired for a much longer time. Indeed, in spongy iron we possess the most valuable of all known materials for filtration, inasmuch as, besides removing such a large proportion of organic matter from water, it has been found to be absolutely fatal to bacterial life, and thus acts as an invaluable safeguard against the propagation of disease through drinking-water.

It is satisfactory to learn that in countries where the results of scientific research more rapidly receive practical application than is unfortunately the case amongst us, spongy iron is actually being employed on the large scale for filtration where only a very impure source of water-supply is procurable. I refer to the recent introduction of spongy-iron filter-beds at the Antwerp waterworks. It would be very desirable that such filter-beds should be adopted by the London water companies until they shall abandon the present impure source of supply.

Animal charcoal, on the other hand, far from being fatal to the lower forms of life, is highly favourable to their development and growth; in fact, in the water drawn from a charcoal filter which has not been renewed sufficiently often, myriads of minute worms may frequently be found.

Thus spongy iron enables those who can afford the expense to obtain pure drinking water even from an impure source; but this should not deter those interested in the public health from using their influence to obtain a water-supply which requires no domestic filtration, and shall be equally bright and healthful for both rich and poor.

Many towns in Great Britain have abandoned an impure water-supply. Glasgow drinks the waters of Loch Katrine; Manchester is supplied by the unpolluted water collected on the high ground of Derbyshire and Cheshire, and a supplementary supply is now being brought, under protest of the Kyrle Society, it is true, from Thirlmere, in Cumberland.

How long will it be before London insists upon having the equally wholesome water which nature has brought far nearer our doors than Loch Katrine is to Glasgow or Thirlmere to Manchester? We will hope that it may not require another epidemic of cholera to teach the inhabitants of this city that, in the interests of temperance and health, the rivers Thames and Lea must be wholly abandoned as sources of water-supply.—*Dr. Frankland in the "Nineteenth Century."*

HAMPSTEAD.—High and healthy position, near the Heath. STANFIELD HOUSE SCHOOL for sons of gentlemen. Home comforts; and the health of pupils carefully studied. Individual teaching. Principal: Mr. W. R. Marshall (several years' experience), assisted by eminent masters. Prospectus on application.—[ADVT.]



## THE WRONGS OF THE STOMACH.

IN most of the early literatures is to be found a dialogue between the Body and the Soul, in which each accuses the other of their mutual perdition, recapitulating the offences which have produced it. Something similar might be written, with good effect, dividing the imaginary conversation between, let us say, the Stomach and the Man, and making an attack of gout the subject of their recriminations. The Man might accuse the Stomach of having done its duty so badly that he is tormented with a burning fire in his extremities, which will neither let him eat, drink, walk, nor rest. The Stomach might plead justification, and say that she had lighted the said fire as the only means of getting a moment's rest from an intolerable taskmaster. Again, the Man might complain that he had lost all enjoyment of life, that his spirits were depressed, his mind gloomy, his appetite gone, his once fine muscular system reduced to flabby indolence; that his food did him more harm than good, so that it had become a misery to eat, and that every meal was followed by a leaden oppression which rendered life an insupportable burden. The Stomach, having listened to all this, delivered in a tone of angry accusation, would reply, "My case is just as bad as your own. Before I had well digested your breakfast, you gave me a meat luncheon to see to; and before I had got that out of the way, you thrust a dinner upon me large enough for three Stomachs. Not satisfied with that, you wound up the day with a supper, drenching me all the time with ale, wine, spirits, tea, coffee, rum, more wine, and more spirits, till I thought you had taken leave of your senses; and when I heard you groaning in your sleep, starting up every now and then as if apoplexy had broken into the house, and was going to carry you off, I said to myself, 'Serve him right if it did.' And in this way you went on year after year, treating all my remonstrances with contempt. I gave you headache after headache; I tried to recall you to reason with half-a-dozen attacks of influenza; gave you a bilious fever; made you smart with rheumatism; twinged you with gout till you roared. But all to no purpose. You went on making me digest till the work broke my back, and now I can digest no longer." This reproach might be made even pathetic, by a description of the Stomach watching its hard tasks come down to it from the regions above between dinner and bedtime. First comes a plate of soup and bread, and a glass of sherry. "I can manage that," says the Stomach. Then a plate of fish, with more bread and more sherry; "and that" adds the Stomach, "though these sauces don't quite agree with me." Then comes beef, or mutton, or both, and stout; then game and sherry; then a dish of tart. "Confound this pastry," says the Stomach; "it gives me more trouble than anything else; but if the master will only stop here, I think, if I put out all my powers, I can get even this rubbish out of the way." But she has hardly taken this hopeful view of the case, when down come cheese, celery, apples, oranges, nuts, figs, almonds and raisins, port, sherry, claret, and a tumbler of hot Hollands-and-water. "Good gracious, was there ever such a mess?" exclaims the Stomach; "what can the man mean? Does he think one pair of hands can manage all this?" Still the willing slave goes to work, when presently there is a rush of hot tea from above, with a thin slice of bread-and-butter. And when the Stomach, with infinite labour, has got the hodge-podge into some sort of homogeneous shape, and is preparing to take a nap after her exhaustion, lo! a devilled drumstick rushes into its laboratory, two devilled kidneys, a bottle of stout, and three tumblers of hot brandy-and-water!

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

## HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

XIII.—HEALTH-RESORTS DESCRIBED (*Continued*).

**SCILLY ISLES.**—The principal island of the group is St. Mary's, and Hugh Town is the resort therein which is most affected by visitors. Mail steamers sail from Penzance twice or thrice weekly, the voyage being accomplished in about five hours. At Hugh Town there is a sandy beach, and several hotels exist. The air is bracing, but also suits those who are not adapted for an over-invigorating sea-climate.

**SEAFORD**, Sussex; distant from London 58 miles. Population about 1,700. The air somewhat resembles that of Brighton (which see), and may be recommended in summer for cases of incipient lung and chest-troubles, for rheumatism, and for weakly children. The beach is mostly composed of shingle, and is not over-well adapted for bathing. Hotels: Seaford Bay, Terminus, Old Tree, New Inn, &c. Return fares from London, 22s. 6d., 16s. 6d.

**SEA SCALES**, Cumberland, on the Furness Railway from Carnforth Junction, London and North-Western Railway, is a seaside resort, on the South-west Coast of its county. Good bathing can be had, and the air is of the bracing type. Hotel: Scawfell.

**SEATON**, Devonshire, 152 miles from London, and 21 from Exeter. Population about 2,500. At this seaside resort the bathing is easy, the beach being shingly. Seaton lies between Sidmouth and Lyme Regis. The climate is of the mild type, and consumptives and others may find this resort suitable. As a quiet winter resort Seaton may also be commended. Hotels: Royal, Clarence's, Pole Arms, Red Lion. Return fares, *via* London and South Western Railway, 49s. 6d., 36s. 6d.

**SEA VIEW**, Isle of Wight (which see), lies near Ryde. Good sands exist. The climate and health characters resemble those of Ryde. Hotels: Crown, Oak.

**SHANKLIN**, Isle of Wight (which see), is of a less-bracing character than Sandown. Hotels: Hinton's, Royal, Spa, Clarendon. Return fares, 34s. 5d., 25s. 3d., 18s. 6d.

**SHAP**, Westmoreland, 271 miles from London, is noted for its Spa, and for its health-characters, which are typically those of a bracing inland air. The Shap waters although comparatively unknown, are highly spoken of in the treatment of rheumatic gout, of skin diseases, and of liver troubles. Shap station itself lies on the London and North-Western Railway system, Shap Spa being six miles from Tebay junction, where all important trains stop. A large hotel exists at Shap Spa. Return fares, 71s. 2d., 57s. 2d., 43s. 2d.

**SHEERNESS**, Kent, lies at the mouth of the Medway, 51 miles from London. Population about 15,000. The air here is of the mild type, the town being sheltered. Cases which demand a mild, warm climate benefit from a stay here. Consumptives, those suffering from chronic bronchitis, and other lung affections, may find Sheerness well adapted to their wants. Hotels: Fountain's, Royal, Wellington, Sea View, &c. Return fares, 12s., 9s., 6s.



**SHIELDS (SOUTH)**, Durham, 268 miles from London. Population about 56,000. The town lies on the north-east coast of Durham, near the mouth of the Tyne. There is a good beach, and bathing is easy. An equable climate exists here, inclining to slight moistness, and eminently suitable for bronchial affections, and for cases of debility at large. Return fares, 7s. 8d., 60s.

**SHOREHAM, NEW**, Sussex, 56 miles from London, and 6 from Brighton. Population about 3,300. This town is situated on the coast, on the River Adur, at the foot of the Southdown. The beach is sandy, and bathing is easily had. The death-rate for 1882 is stated at 12·37 per 1,000. Shoreham has a high reputation for its bracing air, which is, however, well adapted for most chest-troubles. Return fares: 20s., 14s.; and 16s. 2d., 11s., and 8s. 8d.

**SIDMOUTH**, Devonshire, 167 miles from London. Population about 4,000. The town lies on the south-wets coast of Devon, at the mouth of the river Sid. It lies in a valley bounded by hills 500 ft. high. The soil consists of gravel over red sandstone; rain dries quickly; and hence wet does not necessarily prevent exercise. A good promenade exists. In summer and autumn, Sidmouth is a favourite resort for bathing; whilst, as a winter residence, it is valued for its mild and relaxing air. The average rainfall is 27 inches; and the annual wet days number 141. The mean temperature of winter is 40°; of summer, 63°; of spring, 50°; and of autumn, 53°. Generally described, the climate here is moist and equable, and in summer and early autumn relaxing. November and December at Sidmouth are mostly spring-like in character. The water supply is good, and the town is clean. The sea is said to be more than usually salt at this place. In autumn and winter residence here benefits chest-complaints; while for liver-troubles and for spleen-affections Sidmouth has also been commended. Hotels: Royal York, London, Royal Bedford, &c. Return fares, 55s., 40s.

**SILLOTH**, Cumberland, 321 miles from London and 21 from Carlisle. Population about 2,000. The town is placed on the Solway Firth. A good beach, partly sand and partly gravel, exists, and bathing is accessible. The average annual temperature is about 49°. Silloth has long had a reputation as a climate well adapted for the cure of chest-complaints. Asthma, bronchitis, and consumption do well here; and rheumatic cases are also benefited. Scrofulous cases find this place agreeable, and for weakly children Silloth is highly recommended. Hotels: Queen's, Solway, Ciffel, Albion, &c.

**SKEGNESS**, Lincoln, is 131 miles from London. Population about 1,500. This resort lies on the coast, and is increasing yearly in size and importance. A long, firm, sandy beach exists, and the bathing is good. Here the bracing east coast air may be found in its full development, the climate being well-adapted for the healthy or over-worked, but too bracing for the weak. Hotels: Hildred's, Sea View, Vine, Lumley's. Return fares from King's Cross, 39s. 9d., 30s. 3d.

**SOUTHAMPTON**, Hampshire, is 78 miles from London. Population about 60,000. As a summer residence, the air here will be found to be mild. Hotels: Royal, Radley's, South-Western, &c. Return fares, 26s. 6d., 18s. 6d., 11s. 6d.

**SOUTHBOURNE-ON-SEA**, Hampshire, is 3 miles from Bournemouth (which see). Its health-characters closely resemble those of the latter resort.

**SOUTHEND**, Essex, 42 miles from London. Population about 5,000. This place is reached *via* Fenchurch-street, or by steamboat from London-bridge. The air is bracing, but the town is somewhat exposed on the east side. A sandy beach exists, and bathing is plentiful. Southend is

best adapted for the strong, for those in search of a holiday from overwork, or for children and others recovering from ailments. For rheumatic subjects it is unsuitable, as also for persons with lung-complaints. Hotels: Royal, Terminus, Ship, Hope. Return fares, 7s., 5s., 4s. 4d.

**SOUTHPORT**, Lancashire, 219 miles from London. Population about 32,000. The town lies between the Ribble and the Mersey, and is 16 miles from Liverpool, and 32 from Manchester. This place is noted as an autumn and winter resort. The air is pure, dry, non-irritating, and clean; and fogs seldom occur. The climate is, on the whole, a bracing and sedative one, though June and July are apt to be relaxing. The mean annual temperature is about 54°, but sudden changes are not infrequent, and occasionally high winds prevail. The beach is a long extent of sand, which near the promenade is rarely, if ever, touched by the sea, a result probably due to a local rise of land. A long pier exists, and a steam tramway affords an easy means of conveyance to the end of this structure. Winter gardens and an aquarium are numbered amongst the attractions of Southport. This resort is recommended for affections of the throat, bronchial tubes, and lungs generally. Consumption improves here in suitable cases; dyspeptics find this place agreeable, the air not being too stimulating; while cases of chronic rheumatism, certain forms of nervous disease, and overwork improve through a stay here. Hotels: Queen's, Victoria, Prince of Wales, Palace Hydropathic. Return fares, 57s. 6d., 45s. 6d.

**SOUTHSEA**, Hampshire, really forms part of Portsmouth, of which it was once a detached suburb. Excellent bathing can be had here. The town lies opposite the Isle of Wight. A mild and temperate climate prevails at Southsea, and the air suits many who are unadapted to benefit from an ordinary sea-climate. Hotels: Queen's, Pier, Putland Mansions, Putland Family. Return fares (Portsmouth), 26s., 18s. 6d., 11s. 6d.

**SOUTHWOLD**, Suffolk; 104 miles from London. Population about 2,500. This place is situated on the Suffolk coast, the town being perched on a high cliff. The air is very bracing. There is a good sandy beach and bathing-machines in plenty exist. Hotels: Crown, Swan. Return fares from Liverpool-street, South-Eastern Railway, 31s. 3d., 19s. 4d.

**SUTTON**, Lincoln; 147 miles from London. Population about 500. Possesses a good beach, well adapted for bathing; air, bracing.

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LOCAL Boards of Health should be required to keep a record of all extraordinary developments relating to the sanitary condition of dwellings, for the inspection of the public. Thus parties having such properties for sale or to rent, would be forced to put them in a healthful condition, and reasonable security would be afforded to the family and community. This precautionary measure is vastly more important than that of the rogues' gallery in the metropolis; the one relating mainly to the security of human life, the other to the security of property.

**PREVENTION OF INFECTIOUS DISEASES.**—At the sitting of the Berlin Medical Society on Feb. 21, it was suggested that a fine should be imposed on parents who did not isolate their children when scarlatina or diphtheria was in the house. The difficulties of isolation among the poor were fully recognised, as also the uncertain state of medical knowledge with regard to the duration of the period of infection. Herr Goldsmidt stated that he had prevented the spread of scarlatina in a house by anointing his patients with lard, and then dusting on salicylic acid.



## Notings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**ALCOHOL IN WORKHOUSES.**—The *Chelmsford Chronicle*, in commenting on a return moved for by Mr. Whitworth, and presented to the House of Commons, shows the quantity of spirits, wine, and malt liquors consumed in each workhouse in England and Wales during the year ending December 31, 1881, together with the expenditure incurred in the purchase of such liquors. The total cost exceeded £60,000—viz, spirits £19,315, wine £7,148, malt liquors £33,838. The daily average number of inmates in the workhouses during the year was 170,566. In the southern and eastern parts of England the guardians, as has long been known, permit the use of alcoholic liquors much more freely than do the guardians in the northern counties, and this difference is the most striking feature exhibited by the returns. For example, in the three eastern counties of Essex, Suffolk, and Norfolk, the cost of the liquors consumed in the workhouses during the year in question was, omitting shillings and pence, £4,678, the daily average number of inmates being 8,602, while in Yorkshire, with a daily average of 11,525 inmates in the workhouses, the expenditure under this head was only £1,922. Again, in the south-eastern counties, comprising Sussex, Berks, and parts of Surrey, Kent, and Hampshire, the cost of alcoholic liquors was £10,431, for a daily average of 18,340 inmates; while in the north-western counties of Lancashire and Cheshire, with a daily average of 25,265 inmates, it was only £4,312. In the northern counties of Durham, Northumberland, Cumberland, and Westmoreland, the drink bill was a mere bagatelle—£557 for a daily average of 6,673 inmates; but in the south-midland counties, for a daily average of 9,874 inmates, the bill was £4,338. In Wales, as in the northern counties, great care seems to be exercised in allowing drink, the cost for all the workhouses in the Principality, with a daily average of 5,870 inmates, being only £762. The expenditure for the metropolitan workhouses, with a daily average of 46,323 inmates, was £23,607. Reverting to the comparison between the three eastern counties of Essex, Suffolk, and Norfolk on the one hand, and Yorkshire on the other, the items of the expenditure in each case are as under:—Eastern Counties: Spirits, £1,301; wine, £422; malt liquors, £2,955. Yorkshire: Spirits, £691; wine, £311; malt liquors, £720. These are singular differences, and it does not require much profundity to draw the inference that either too much drink is allowed to indoor paupers in one part of the country, or too little is allowed in the other.

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**SNAILS USED FOR FOOD IN SPAIN.**—Kobelt has issued for private circulation a reprint of his journey for shell-fish investigations. Among other interesting matters in this entertaining brochure, we find an account of the snail-market at Valencia, and numerous references to the consumption of these mollusks for food, not only in the Iberian peninsula, but in Morocco and Algeria wherever the south Europeans have colonised. The Spanish do not merely eat the large vine-snail (*H. pomatia*), which is made use of in South France and Germany, but appear to consume all kinds which are large enough to be worth the trouble of

collection, except a few (*Helix Gualtieriana*, *Leucochroa candidissima*, and *L. baetica*) which are reckoned tough and unwholesome. The women who deal in this kind of lenten food are called *caracoleras* (from *caracole*, a snail), and congregate in a small open square used as a snail-market, cry their wares loudly, and, to convince customers of the good quality of the animals heaped up before them alive in large baskets, crack the shells open with their teeth. *Helix alonensis*, the serrano or mountain snail, is considered to be the most delicate of all, and comes from the vicinity of the Vega. From Mallorca is imported *H. lactea*, which is found throughout southern Spain; and in the Valencia market Kobelt also obtained *H. Dupoteliana*, *vermiculata*, and *aspersa*. They were valued at about forty cents a hundred; and, in spite of prejudice, he felt compelled to acknowledge that, when properly dressed, some of the kinds were really of delicate flavour. They are cooked, shells and all, in a broth with onions; extracted, stewed, and replaced in the shell to be served; or steamed with rice. Strangers rarely partake of these peculiarly Spanish delicacies; which, nevertheless, are so much esteemed by that nation as to be imported for home use, and even exported for the benefit of Spanish colonists in other parts of the Mediterranean.—*Nature.*

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**RESISTANCE OF NEGROES TO DIPHTHERIA AND SCARLET FEVER.**—The *American Medical News* has recently published statistics showing the number of deaths from diphtheria and scarlatina in the year 1881 among the coloured and white races in cities with a large mixed population. Summarising the facts, it is found that in 14 cities, with an aggregate population of 1,156,801, of whom 871,886 were white and 284,915 coloured people, the total of recorded deaths from scarlet fever for the year 1881 was 526, and of this number 441 occurred among the white population, and only 85 among the coloured. Had the negroes died in the same proportion as their white neighbours, the deaths among them would have amounted to 144. As regards diphtheria, it appears that in a population of 501,728, of whom 331,706 were white people and 170,022 coloured, diphtheria was the cause of 211 deaths in white people and 73 in coloured, and if the coloured had suffered in the same proportion as the white people, the number of deaths among them would have amounted to 109. These figures do not, of course, show that the negro has any comparative immunity from these diseases, but only that he does not *succumb* so readily to these specific poisons. When, however, it is borne in mind that among the negro population in these American cities the external conditions most favourable to the spread and high mortality of both these diseases prevail—overcrowding, dirt, bad nursing, bad food, neglect of proper medical treatment in the earlier stages and milder cases of the diseases—these figures really express only half the fact, or rather they lack that emphasis which is heard in nature.

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**A NEW VARIETY OF GLASS.**—The *Wiener Gewerbe-Zeitung* states that a chemist of Vienna has invented a new kind of glass, which contains no silice, potash, soda, lime, nor borax. In appearance it is equal to the common crystal, but more brilliant; it is perfectly transparent, white, and clear, and can be cut and polished. It is completely insoluble in water, and is not attacked by fluorid acid, but can be corroded by hydrochloric and nitric acids. When in a state of fusion it adheres to iron, bronze, and zinc.—*Gaceta Industrial.*



## Our Bookshelf

"Reading maketh a full man."—Bacon.

*Kallos: A Treatise on the Scientific Culture of Personal Beauty and the Cure of Ugliness.* By A FELLOW OF THE ROYAL COLLEGE OF SURGEONS. (London: Simpkin, Marshall, & Co., 1883.)

WHETHER or not this book can be said to justify its name is a matter of doubt. There is, in its secondary title, just a *souçon* of pandering to a taste the reverse of wise or scientific. To cure "ugliness" and to cultivate "beauty" are aims the exact performance of which must depend largely upon our ideas of what is meant by beauty, and what by the reverse term. Naturally, all desire to be beautiful, or, to put it in a milder way, to be comely. There can be no disparagement in any one striving to enhance whatever indications of comeliness their own persons present; although this desire, carried to excess, is only another way of indicating the fashionable crazes of the day. It is so terribly easy to excuse folly on the ground of attempting bodily and personal "improvements," that where legitimate procedure ends and fashionable vagaries begin, is hard, if not impossible, to trace. For example, a person with a large foot may endeavour to squeeze his (or her) extremity into a boot far too small to accommodate the member. The rage for "small feet," as a presumably important element of "beauty," sends thousands of persons into a chronic state of foot distortion. So is it with the waist. Let the popular idea of "beauty" become associated with a small waist, and immediately there is a run upon corsets, and a crushing and pressing of ribs and rib-cartilages to the injury of the body at large. It is, therefore, at the outset, a highly difficult task for any writer, lay or professional, to teach the public what to do and what to avoid for the cure of ugliness and the culture of personal beauty. People, as a rule, are only too ready to grasp at any idea, however absurd, if it conveys the slightest hope or expectation of making them "good looking." Excess of "beauty," so-called, is as often as not excess of folly. The large trade done in "bridal blooms," face-lotions, hair-dyes, false hair, enamels and pastes, and other toilet "abominations," shows very clearly that one successful method of tapping the public purse is by pandering to the public vanity. Needless to say, there is no ground included in health-science which will warrant any tampering with the natural structures or conformation of body. Where abnormalities exist, they come under the care of surgery, and not of the fashionable corset-maker, hairdresser, or face-enameller—provided these abnormalities are remediable at all.

The work before us exhibits a striking combination of sensible advice, with information which may be described by the opposite term. For example, if we select Chapter XII., which deals with that all-important feature, "the Nose," we discover the author to classify noses into coarse, flat, nose to one side, very thin, the weak (*sic*), the long (*sic*), the blue, and the spotty (*sic*). He defines "the coarse nose" as tending to be "shiny and reddish." It is "large and thick, especially on the bridge and at the tip." Its causes, he adds, include "habitual excess in eating and drinking, chronic catarrh of the nose, and repeated catarrhs of the nose." Now, if we analyse out this description of "the coarse nose," it is difficult to form any idea of the organ in question. A nose that is "large and

thick, especially on the bridge and at the tip," and "shiny and reddish," is a nose of such generalised type that a very large number of noses might be either included in or rejected from the author's class. The cure of "the coarse nose" is given on the lines of avoidance of the catarrh, regulation of diet; "nervous irritation is to be prevented"—whatever that may mean, or whatever relations the coarse nose and nervous irritation may possess—and local treatment. The coarse nose, we learn, is to be bathed twice a day in not warm but hot water, "especially hot rain water, without soap." A lotion of sulphur, camphor, &c., is also recommended. Now, how such treatment is to change or beautify "the coarse nose," is, we dare say, more than our readers can tell. We do not profess to have gleaned more from our author's remarks than the plain fact "which nobody can deny," that temperance in living is a good thing for a red "shiny" nose, as for most, if not all other, ailments. Again, in describing "the nose to one side," the author says "that, excepting when it is caused by violence, the origin is usually obscure or unknown," and he adds that "the treatment lies in a simple operation," which, however, is left undescribed. We presume he means the replacement of the partition or *septum* of the nose. But there are countless cases in which such an operation would be inadmissible, and in which it could not be performed. Hence the advice here given is practically useless, since a man with a "broken" nose—the only case, in our opinion, in which operative treatment is required—would be certain to apply, at once, for surgical aid. Analysis of the author's chapter on the "Nose" does not impress us with a high sense of his success as an adviser in beauty-culture. His advice simply amounts to saying that if one's nose is red, "spotty," or blue, &c., we should live temperately, and that when the nose is off the straight we should see a surgeon.

He is not more successful when he deals with "mouth and lips." Coarseness of the mouth, we are told, "is always objectionable," but even by aid of an illustration (p. 60), which figures a so-called coarse mouth with a projecting lip, we fail to see how such a feature could be so termed. Acquired coarseness, we are informed, "often arises from excessive eating, combined with a digestion which, though it may be strong enough for ordinary purposes, is not quite equal to the demands made upon it." The author's explanation of how the result in question is brought about is by no means clear. That full lips may be caused by over-growth due to "determination of blood to the mouth," is surely a piece of physiological vagary as great as that which (p. 62) ascribes thin lips to the "common effect of an insufficient allowance of food." Did our author never see thin lips in highly cultured, well-fed persons? He appears to us to commit the grave and unscientific error of underrating the influence of heredity, and of crediting causes of a purely secondary character, and, at the best of doubtful power, with the production of the peculiarities he describes.

Here and there the author departs from the beaten track of plainness and untechnicality. He speaks (p. 106) of the "cancellous bones" of the instep, and of the "cancellous ends" of the long bones. Such terms—and also that of "hypertrophy" on the same page—are Greek and Hebrew to the lay reader. It would have been equally clear to have explained that the bones in question had an open or lattice-like structure, as opposed to denseness; and for "hypertrophy," to have substituted "over-growth"—as, indeed, is explained in a foot-note in page 61. The sensible portions of this book are dovetailed into the portions to which we have been expressing our objections. A very considerable amount of genuine common-sense in-



formation may be extracted from the pages of "F.R.C.S." The hints on "The Complexion" are, on the whole, eminently sound, and contain many bits of advice which should find a place in the domestic treasury of household medicine. The section which deals with the "Hair" may also be cited as a good example of careful writing and of judicious advising; and there are some useful hints on physical exercise to be found in the chapter on the "Figure."

Altogether "Kallos" is a curious compound of good sense and not a little frivolity. The author is a trustworthy guide so long as he concerns himself with pure health-details. The attempt to lead his readers to expect a mine of information on beauty-culture is, however, a failure, and the work would have been all the more valuable had the portions dealing with impossible aesthetics been omitted from its pages.

## Sanitary Appliances. Etc.

DR. RENNER'S CALF-LYMPH IN VACCINATION.—We have recently had an opportunity of seeing Dr. Renner's calf-lymph in tubes tried at the Western Dispensary, Edinburgh, where vaccination has hitherto been carried on very successfully with the ordinary humanised lymph. On Monday, July 9th, 1883, three tubes were used to vaccinate three children, chosen at random, the only condition considered essential being that they were in a fit state of health to undergo the operation. Of these three, one had been inoculated on the right arm with ordinary humanised lymph a week previously, but after going on favourably for five days, action ceased in the pustules. They apparently aborted. For the sake of experiment the left arm was inoculated in two places. Vesicles began to form, but on the second day one of those on the right arm again took on action, and the vaccination from the human lymph succeeding, the calf lymph proved, of course, ineffectual. In the second child, a strong, lusty boy, the calf lymph was inoculated in two different places on the right arm. On the 13th the lower of the two vesicles broke and lymph exuded, but the vesicle reformed and presented a very healthy appearance on Monday, the 16th. The upper vesicle broke on the 14th, and was a dry crust on the 16th. From the lower vesicle three other children were inoculated on the 16th. The mother said the boy had suffered very little constitutional disturbance, much less than any of her previous children. In the third case, two vesicles formed and presented a healthy appearance when the child reappeared for its certificate. It, too, had suffered little, if any, constitutional disturbance. From it two other children were inoculated and several tubes taken. The tubes when filled showed that the lymph was perfectly clear, containing neither flakes of fibrine nor scales of epithelium. All the five children who were inoculated from these two cases showed healthy vesicles on July 23, a week after the operation, and in none had there been constitutional disturbance worth speaking of. There can be no hesitation, therefore, in saying that in Dr. Renner's "Calf Lymph" exists a safe means of securing pure, efficient, and harmless vaccination.

ANGOSTURA BITTERS.—Angostura bark,  $\text{živ.}$ ; chamomile flowers,  $\text{ži.}$ ; cardamom seeds,  $\text{živ.}$ ; cinnamon,  $\text{živ.}$ ; orange-peel,  $\text{ži.}$ ; raisins, 1 lb.; diluted alcohol,  $2\frac{1}{2}$  gallons. Macerate for one month, then press and filter.

BROWN'S BRONCHIAL TROCHES are said to be composed as follows:—Powdered extract of licorice, 16 ounces; powdered sugar, 24 ounces; cubebs, gum arabic, of each 4 ounces; extract of conium, 1 ounce. Mix, and with sufficient water make troches of suitable size.

BENZONIN has been found by Mr. B. F. Scholl to be better than styrax as a preservative of ointments. The latter will answer this purpose if the ointments are not kept over two or three months. In experiments made by Mr. Scholl one drachm of tincture of benzoïn to one ounce of lard was found most serviceable.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

### LETTERS TO THE EDITOR.

#### THE SORROWS OF SHOPWOMEN.

SIR,—I have read with much pleasure your articles in favour of the supply of seats for female assistants in shops. There is no doubt the enforced standing during the greater part of the day is very injurious to health; but another thing, I am afraid, proves far more hurtful, viz. the wearing of tight corsets. This practice I believe to be almost universal amongst female shop assistants, particularly in the more fashionable establishments, and it is one that is almost forced upon these unfortunate girls by the requirements of their employers. One of the first requisites for an engagement in such establishments is "a good figure," both for the appearance of the place and also because, in many cases, the girls are required to act as "dummies" for the trying on of various costumes for the inspection of customers. The girls have, therefore, in order to qualify for their positions, to reduce their waists to the fashionable standard, which at present is in favour of "tailles de guêpes." It will be said that in this respect they are in no worse position than fashionable young ladies, who wear their corsets quite as tight. But the surrounding circumstances are very different. Young ladies of fashion are able to avail themselves of exercise, which does away to some extent with the injurious effects of tight-lacing, and they besides do not require to work, and, above all, there is no compulsion in their case. The shop-assistant, on the other hand, has to be on her feet the greater part of the day, and to perform her duties while wearing corsets that must inflict almost torture, and with no opportunity of relaxing the cruel laces for an instant, while she dare not discontinue the tight-lacing without the risk of losing her situation. Can nothing be done to remedy this state of things?—Yours obediently, M. A.

#### QUACKS.

SIR,—In my opinion as a medical man, your paper is unique from one special point of view—namely, that through its agency the public have an opportunity of learning from a professional source how it is gulled by quack nostrums and appliances.

I am delighted to find that you have commenced to show up electrical appliances (so called). The swindling connected with this "line of business" is incredible; but that is not all, for I enclose you a little book published by an "electric quack," and filled with an amount of filthy matter and abominable falsehoods almost incredible. This book is widely circulated, and it is a public scandal that it cannot be stopped and the author severely punished for distributing broadcast the obscene details it contains. The exposure of quackery opens up a wide and useful field for your valuable paper.—Yours truly, M.D.

Aug. 10, 1883.

[The book enclosed by our correspondent is that of a London quack, of whom more anon.]

#### THE VEGETARIAN CRUSADE.

56, Peter-street, Manchester, Aug. 11, 1883.

SIR,—We are much pleased to see the considerable attention which has been given to the matter of pure food in the columns of HEALTH. The Vegetarian Society has been at work in the prosecution of its useful and instructive mission for the past thirty-six years, and has offered freely to all the world information respecting its principles and its aims to every applicant. As the importance of the subject warrants, I am sure you will permit me to state this through your columns, and that you will accept our congratulations



on the fair and impartial spirit in which you treat the *pros* and *cons* of this and other important questions.—I am, sir, yours faithfully,  
R. BAILEY WALTER, F.S.S., Secretary.

## QUERIES AND ANSWERS.

### GENERAL.

C. ABLEWHITE.—The *Ethmoid bone* was duly described in our papers on "The Body and its Structure."

PRAIN.—See No. 9, HEALTH.

A. C.—Address all letters to "The Editor of HEALTH" in full. There are other journals published at our office; hence you must specify the "Editor" for which your letter is intended.

MONA.—1. There is a dictionary such as you require by Stormonth, published by Blackwood, or by MacLachlan & Stewart, South Bridge, Edinburgh. Write to the latter. 2. We do not know Mr. Buck's address. The best system we know is that of Mr. Roberts', Collards, Haslemere, which will shortly be described in HEALTH, with illustrations.

E. J. COX.—Thank you heartily for your good wishes. The topics you suggest are all outlined in our future programme, with many other subjects of great interest. Our space is limited, so we must beg time to carry out all the wishes of our friends.

G. A.—Not at present. All contributions are carefully considered, and if accepted, paid for. See our "Notices to Correspondents."

NELLIE.—Probably the "Standard Physiology," by Dr. Wilson (W. & R. Chambers) would suit you. Try that, or Huxley's.

CINCHONE.—A minim is equal to a drop. See article on "Doses" in HEALTH, No. 19.

AMBROSE.—A disgraceful hoax was played upon you. Keep your "weather-eye" open in future.

PHILANTHROPIST.—Read Dr. Carpenter's "Mental Physiology" (Kegan, Paul, & Co.), if you wish for the scientific side of mesmerism, and not merely its quack aspects. We are no believers in "Phrenology," on the ground that the functions of the brain are not localised as that theory puts them. Combe's works on phrenology should answer your purpose; but we should advise you strongly to begin your studies with a course of lectures on physiology. If you merely begin with mesmerism and phrenology, you will resemble a man who attempts to drive a steam-engine without having mastered the rudiments of mechanics.

### SANITARY.

INSPECTOR.—We believe not. Such a case has never been tried, so far as we know.

ANDOVER.—Your idea has been forestalled. Thanks.

A. N. O.—Visit the Parkes' Museum. Apparatus shown there.

CARGILL C.—We have no confidence in the system.

H. MURRAY.—We should say boil *before* filtering. If your filter is a good one, it will act upon the water which, by boiling, has had any organic impurities killed off. For the drains, dust-bins, &c., use "Sanitas" powder, which you can buy in perforated tins at any druggist's. Some of this should be kept in the pans of w.c.'s constantly, and a little "Sanitas" fluid may be poured, after flushing, down sinks and drains daily.

E. KEEVIL.—Why not write to the Local Government Board, Whitehall, S.W.? If the Medical Officer of Health will not attend to the matter, he can be compelled to do so, on evidence being afforded the authorities that a nuisance exists. There must surely be some discrepancy between the reports and the medical officer's views; but you can readily have the matter put right by an appeal to head-quarters.

T. N. STREET.—We advised you to address your inquiry to Messrs. Armfield & Sons, 15, Lower Belgrave-street, London, S.W. Have you done so? If not, do so. The inhaler may be obtained from any surgical instrument maker. Try Kröhne & Seesman, or Maw, Son, & Thompson.

J. D. G.—Your landlord's procedure is to be condemned in the strongest terms. If you wish to escape lead-poisoning have the paint removed at once. Ordinary cement would do no harm, but paint is highly deleterious to health. [Where do you see "hard scientific terms"?]

A. B. C.—There are not likely to be any unhealthy effects from the odour—only unpleasantness. Have you tried steaming the carpet thoroughly and then soaking it in "Sanitas" fluid?

### MEDICAL.

GLENISLA.—The removal of your "pimples" is rather a matter for attention to your general health, than for special skin-treatment. They simply indicate either a fullness of blood (not likely in your case) or a poorness of system. We should recommend you to

stop the aperient you are taking; live temperately, and take a teaspoonful of Fellow's "Syrup of the Hypophosphates" thrice daily before meals. See also advice to G. F. P., in HEALTH, No. 18.

JUVENIS (Liverpool).—Try tonic recommended to "Glenisla" above. Regarding your question about the face, there is no remedy which will affect the face without affecting the body at large. Avoid starch, sugar, and fat; and subsist chiefly for a time on a milk and meat dietary, which, however, should not be overstimulating.

TEMPUS.—Take your tonic twice a day only. We think the lotion, page 119, HEALTH, which you quote, will do you good. Heat the mixture, so as to make the oil mix thoroughly with the other ingredients. Send name and address, that we may return your prescription, which is a good stimulant, but not quite adapted to your case. Persevere, attend to your health, and all will go well. Thanks for your kind appreciation of our advice.

SEASHORE.—We have no experience of the "Acid" you mention. We should think, if it acted at all, it would not be more effective than simple cold bathing. See advice to "Henry Jones," HEALTH, No. 18. Regarding the hip-baths, from 98° to 110° Fahr.

A SUFFERER.—See advice to "Henry Jones," No. 18, HEALTH. Don't be dispirited. Follow advice given, and in addition take the tonic recommended above to "Glenisla."

HERBERT CHAMBERS.—Thanks for cutting. The explanation of these "cures" is twofold—1. The supreme ignorance of the persons cured; 2. The utter absence of any evidence to show the diseases said to be cured were ever present. Our "Miracle-Cure" articles should solve a few difficulties of these cases, which have no basis of solid fact. The case of the "paralysed sister" at "Bethshan" is eminently like that described in our third article.

H. JONES.—See Dr. Pratt's "Sermon to Young Men," published by Ballière, Tindal, & Cox. Don't hamper your mind by thinking too much of your condition, which will soon better itself if you attend to advice given.

CHINA PUG.—You must have used carbolated Vaseline; *pure* Vaseline could not cause the irritation you speak of. You possibly suffer from a form of acne. For the affection we should advise you to bathe the part with lukewarm water, in which a little bicarbonate of soda has been dissolved. Be careful of chills, and use a little collodion to protect the spot.

G. R.—You should know that your symptoms are not a sign of disease, but occur in many healthy persons of your age and condition. You do not seem to be in ill-health at all; hence, our advice to you is not to grow morbid; to take moderate open-air exercise; to bathe with cold water; to avoid drinking liquids before retiring to rest; and to sleep in a well-ventilated room on a hard mattress. Your food should be nourishing—no stimulants. There is no reason why you should not take the step you contemplate. Don't be nervous about yourself.

J. PATTERSON.—There is nothing hurtful in late hours spent in a well-ventilated room, provided the requisite amount of sleep is taken thereafter; but the natural tendencies of our system favour the idea that the hours before midnight are those in which sleep should begin. One thing is certain, namely, that people who go to bed very late should not rise early. We know many journalists who, with care and temperate living, have pursued their craft by night (and slept on in the forenoon) for many years in health and vigour. 2. Flannel or thick cotton in summer.

KATHLEEN B.—Yes; most likely.

CLARKIA.—You do not mention your age; but your symptoms are indicative in our opinion of need for care in preserving your eyesight. Have you used "preserves"? In cases like yours we have seen the troubles disappear with the use of proper glasses. Write to Mr. Browning, 63, Strand, London, for a prospectus of his method of sight-testing, and try your powers with that. Use a little of a lotion (night and morning) composed of 12 grains sulphate of zinc to 6 ounces of rose-water. Dilute one part of this lotion on each occasion with 3 parts of water. Write again if further advice is necessary. Smear the eyelids at night with a little pure Vaseline.

SOUTH-PLACE.—Have you read our articles on the Hair (see Parts I. and II. of HEALTH)? If not, kindly study these, as we anticipate you will find your queries answered therein. If not, we shall be glad to advise you further; but we may say that the case is one in which a high care of the general health is necessary.

SEFTON.—1. Attend to ventilation of bedroom. 2. Take no supper after 8 or 8.30. 3. Attention to digestive system; use "Aesculap" water as a mild aperient. 4. Take cod liver oil emulsion or Maltine Company's preparation of cod oil. 5. Try cocoa and milk in preference to tea. 6. Use Carrick's "Beef Peptonoids" as a highly nutritious soup, made by adding boiling water to the powder. 7. Occasional use of *Fer Bravais* as a tonic. 8. Cold bath or sponging chest (if it can be borne) in morning. Thanks for kind wishes.



**CRICKETER.**—Are you sure there is no collection of wax in your ear? We are certain there can be nothing wrong with your atlas or axis vertebra. You should *always* plug your ears with wool in swimming. We should not wonder if water getting into your ears is the cause of your troubles. See to the state of your ear. Football will not hurt you. Put a little glycerine in the ear at night, and then a piece of wool. This will soften the wax if there is an accumulation, and render the syringing more effectual.

**DERMA.**—As a rule, hairs do not grow on scars such as you describe. We fear nothing can be of use to you. The hair follicles disappear with the true skin, and the scar-tissue does not develop them anew.

**A CITIZEN.**—Bathe the feet with alum and water night and morning. Are you sure your boots do not compress your ankles? Try a wide, easy, square-toed shoe.

**W. R. P.**—See our "Hair" papers in Parts I. and II. of *HEALTH*, wherein scurf and its causes are treated.

**F. C. WILKINSON.**—1. Attend carefully to bodily cleanliness of the child. 2. Use injections of salt and water. 3. Avoid vegetable food, or at least see that the vegetables, fruit, &c., are thoroughly washed, and use salt with the food. 4. Purge with castor oil. Write again, if not improved.

**CAMBRIDGE.**—Take a little pure carbolic acid (the acid is a poison, and be very careful not to allow it to come in contact with mouth or tongue) on a pledget of cotton-wool fastened, say, to a tooth-pick, and rub this well into the tooth. It will cause pain, but will probably destroy the nerve and save suffering.

**DERRYGONELLY M'K.**—No; nothing save temperance in both eating and drinking. Try a course of vegetable dietary for a time, and avoid all highly-spiced or stimulating foods. Wash, night and morning, with warm rain water. See to your general health also. Occasionally the redness is a symptom of indigestion.

**BRUTUS.**—Your health generally wants careful looking to, and a man of your intelligence should be capable of seeing to this vital question. You are, we should say, in want of a proper dietary, but on this head—what you eat—you say nothing. We should advise you to live plainly and simply, avoid stimulants, and rest after food. Your disturbed rest proceeds from late suppers, possibly; if so, give up these and don't eat anything within two hours of your retiring to rest. As a mild aperient, which is necessary in your case, try "Æsculap" or "Victoria Ofner Bitter Water." See that your bedroom is well ventilated. Take moderate open-air exercise, and try a cold bath in the morning. If these measures do not improve you, write again.

**W. GARTH.**—Asthma appears to be a spasmodic disease, depending on some nervous affection which causes contraction of the air-tubes of the lungs. It seems to be brought on by any irritating cause applied to the stomach (e.g., indigestion), or even by mental emotion, or by inhaling irritating fumes. Asthma is a highly capricious disease. We know one person who never has asthma save when in London, and another who is never well out of London, and so on. In your case the long journey probably causes nervous weakness, or the passing through different temperatures may excite the affection. Our advice to you is:—1. To find out exactly, by observation, the air, climate, food, drink, and mode of life which best suits you, and which agrees best with your health. 2. When the paroxysm comes on, discover the remedy (strong coffee or tea, inhaling the vapour of tobacco or of burning blotting-paper which has been steeped in saltpetre, inhaling with care a very small quantity of chloroform-vapour, brandy and water hot, &c.) which best suits you, and which acts most speedily. Stramonium cigarettes, bought at the druggists, may also be tried. 3. Attend to your meal-hours, and be regular in diet. 4. Avoid constipation, and take no fluid before or three hours after dinner and supper. 5. The following prescription when the attack is persistent:—Tincture of lobelia, two drachms; spirits of chloroform, three drachms; tincture of conium, three drachms; almond mixture to make up six ounces. A table-spoonful thrice daily.

**JOHN SMITH.**—It is quite usual for the parts mentioned to present the appearance you note. We should not advise anything beyond cold sponging night and morning. There is no disease involved.

**AVIS.**—No; moderate smoking will certainly do no harm in your case, the cure for which seems to be as much of mental as of physical kind. Rouse yourself from despondency. Life is worth living, even to the poorest, if they will only look at matters in a sensible light. For the sweating, try the following prescription:—Acid sulphuric dilute, one drachm; syrup of orange-peel, six drachms; water, seven and a-half ounces. A dessert-spoonful thrice daily.

**STUDENT OF MEDICINE.**—No; we have not noted the incident you mention. We suspect, if the result was as stated, that there must have existed some idiosyncrasy to the action of the drug in question. We know at present of no official preparation which would act in the manner you mention.

**SALIVA.**—Our opinion is that the smoking is the cause of your excessive salivation. Tobacco, in certain cases, acts as a stimulant to the salivary glands. You will probably suffer no evil effects beyond the annoyance. Saliva is of high importance in digesting the starchy matters of your food. We should say try the effect of ceasing your smoking, and, above all, look well to your teeth. If not cured, write again.

**AMICUS.**—You mistake the nature of the secretion you mention. It is not that you suppose, but is a much less important fluid, coming from the gland you name, though quacks magnify its importance. See advice to "A. L.," No. 17, *HEALTH*. We think you should adopt the treatment there suggested, and, in addition, give support to the parts affected with the varicose veins. Cold bathing should also do good. The "phosphoric" preparation you name we have no confidence in. A tonic like that recommended to "A. L.," in No. 17, is much superior, since its composition is known, and its effects undoubted. Your cure will come in time, by attention to dietary, exercise, and cold sponging. Steer clear of quacks, and, above all, cultivate a hopeful frame of mind.

**CAPILLARY.**—Our "Hair" papers appeared in *HEALTH*, Parts I., II., and III. There were fifteen papers in all. Your best plan will be to purchase the first three parts of *HEALTH*. Doubtless the psoriasis is the cause of the hair-trouble. The medicine most in repute for this disease is chrysophanic acid ointment (chrysophanic acid one drachm, lard one ounce). A piece of this ointment the size of a pea should be rubbed into each patch of the disease daily. But it should only be used under medical sanction and attendance. The oil of cade (two drachms to one ounce glycerine of starch) is also useful.

**T. W. C.**—We think the patient should see a good London surgeon. Injuries to the knee-cap or joint are not to be trifled with, and we advise the patient to be brought to town at once, and shown to a good hospital surgeon. We say this while expressing no opinion regarding the treatment already given. The "electrical knee-caps" are swindles. Have nothing to do with them.

**ESPERANCE.**—Use a little pure Vaseline rubbed on the eyelids at night. Attend also to the general health. Don't use the eyes at night in reading; and try *Fer Bravais* as a tonic thrice daily as directed with the medicine.

**CELT.**—We should say protect your throat well, and take a tonic in which quinine and iron are contained; such as citrate of quinine and iron, forty-eight grains; tincture of orange-peel, half-an-ounce; water, five and-a-half ounces. A dessert-spoonful twice daily.

**KATINKA.**—We suspect the "electrical" apparatus you name to be a sham. Send it on (you paying expense of coming and going), and we will test it for you. The excessive perspiration depends on general conditions. Try the following:—Tincture of squills a drachm and a-half; dilute sulphuric acid, a drachm and a-half; tincture of opium, half a drachm; infusion of cascarrilla, to make up a six-ounce mixture. A table-spoonful every three hours. Hot water, as used, is liable to give cold.

**CLEOPATRA.**—You do not say how the ear-discharge came on, whether after fever or not. We should recommend you to seek advice at any of the ear-hospitals near you. The treatment is simple, but requires a surgeon to administer it. The person named is a quack.

**EDWIN E.**—From your account we should not suspect diabetes—in an active state at least—but rather some local irritation. Try the effect first of mild purgation by the use of "Victoria Ofner Bitter Water," and then give *Fer Bravais* or "Dialysed Iron" thrice daily. Note whether or not the weight is decreasing, and if so, consult a physician. There could be no harm in going back to the diabetic dietary at once; and please remember that the disease is liable to recur.

**JUVENIS (Liverpool).**—We think you should consult a physician. Cases of depraved appetite (such as yours appears to be) as often as not indicate the existence of some other affection. If not, then your doctor will readily prescribe for you some medicine which will require to be cautiously used. You might, meanwhile, try a powder (composed of subnitrate of bismuth, powder of acacia, and bicarbonate of soda, of each four grains) thrice daily, before food.

**C. M. B.**—In such a case we would counsel rest and attention to the diet, which should be light (milk, puddings, &c., with Carnrick's Beef Peptonoids, which make a capital and strong soup by adding a little hot water). A little good claret with meals might do good. It is a case for great care, warmth, and, above all, for rest.

**ALLAN HOWARD.**—Yours is a common case, but we read nothing in your letter which seems to warrant the opinion that you are in ill-health, or which gives us the idea that the step you contemplate would be in any way injurious. [See advice to "A. L." in No. 17 *HEALTH*.] It is possible that your present residence may be too relaxing, of course; but there is no sign of disease in your case,



and we advise you to be perfectly cheerful and contented in view of your future.

NICHOLAS.—Try the effect of hot salt-baths for the shoulder. Rub warm oil into the part each night. Clothe warmly and avoid chills.

MAGISTER.—We should advise you to see a physician. In a patient of the age you mention such a symptom may indicate a condition which only a physician can put right. Reassure the patient that such a course is the best to pursue, and that every care and tenderness will be shown by a medical man. Rest will be necessary in any case.

SHOPWOMAN.—The "sebaceous" tubes of the skin get filled up, and the black spots are merely the tops of the tubes into which dust has found its way. Press out the tubes, then wash the face with warm soft water night and morning, and try the effect of a lotion composed of sulphur, 3 drachms; glycerine, 4 drachms; and rectified spirits of wine to make up 4 ounces. This is to be applied at night.

HOPEFUL.—See advice to "Shopwoman," in present number.

ALICE WARD.—1. The camphorated chalk, with a moderately hard brush, should certainly remove tartar, unless too firmly impacted, when you should see a dentist. 2. Read our papers on the "Hair," in Parts I., II., and III. of HEALTH. Don't brush the hair roughly. If you do not find anything in the "Hair" papers to suit you, please write again.

P. C. (Liverpool).—You suffer from a form of psoriasis, a skin disease. Use first soft soap and water, vigorously applied to remove the scales; then apply tar ointment. Write again if not improved. Attend also to general health.

F. H. G.—A curious case, but one we have once or twice met with. The affection is caused by the change of air, and resembles 'hay-fever' (see HEALTH No. 16, page 247) somewhat in its cause.

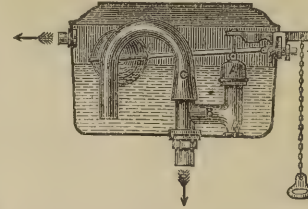
We should suggest a little iron and quinine to be taken for a day or two before the attack is expected, and sniffing the steam of boiling water in which ten drops or so of carbolic acid has been placed.

D. E. YOUNG.—The idea you mention is a curious and familiar one. Like many other examples of "folk-lore," it has its origin simply in a coincidence. There is no scientific or satisfactory evidence that such a result is possible, and you know how persistently such tales are handed on "from generation to generation."

M. H.—What can we say to you, except to tell you that you *must* be cheerful? Life is only worth living when you *make* it so. Why not seek a change? Travel about, even a little way from home; acquaint yourself with the miseries of your fellow-men, and see what you have to be thankful for. Attend also to your health. Read cheerful books, take plenty of exercise. Your cure must be mental, for your complaint is of the mind, and not the body.

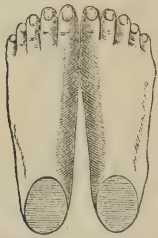
A. J. M.—Read our paper on the "Teeth," in HEALTH, No. 1. Use camphorated chalk or camphorated magnesia, and a moderately hard brush. Add powdered charcoal to a little of the chalk. Fluids will not alone keep the teeth bright.

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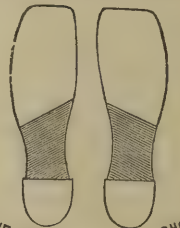


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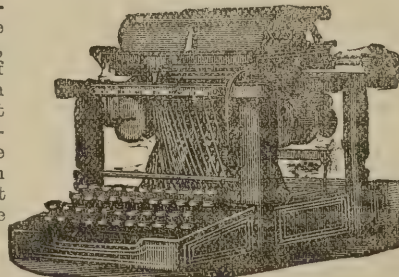
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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, AUGUST 31, 1883.

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## Notes by the Way

“Health is the foundation of all our physical happiness.”—Herder.

LAST week in Oxford-street, Piccadilly, Leicester-square, and in other districts of London, the passer-by had pushed into his hand, day by day, leaflets which at first sight he might have imagined were of the usual, harmless, advertising character. A glance at the bills which are thus industriously circulated throughout the length and breadth, not of London only, but of well nigh every great city in the land, is sufficient to dissipate the latter idea. The bills are those of infamous quacks, and in some cases may be described as positively indecent. Let any one think calmly for a moment of the flood of filth which is thus poured forth on the public, and of the amount of suggestive immorality and wickedness which is thus being disseminated amongst young and old alike, and then ask himself the question, “Why are quacks thus allowed to pollute our streets?” The answer to this question will very likely be, “Because their doings have not been brought under the notice of the law.” Very good. Let us, however, recount the result of an appeal to the law.

IN the interests of public morality—and knowing further from the newspaper police reports that one of the quacks in question had been recently fined for affixing his bills in a public place—we wrote to Mr. Howard Vincent, the “Director of Criminal Investigations,” Scotland-yard. In our letter we pointed out the obvious harm which accrues from quacks being allowed to distribute their literature broadcast in the public streets; and we enclosed samples of the literature in question, which had been handed to us in the street. We suggested that a couple of plain-clothes officers could readily obtain evidence of the most ample kind against the quacks in question. Mr. Vincent returns the following reply to us:—“I have to acknowledge receipt of your letters on the 21st and 23rd inst., and I quite agree with you, but the law is powerless in the matter.”

So that, as the matter stands, it would appear that the vile quacks, of whose nefarious practices society has surely heard enough, and who work incalculable harm to those who are foolish or ignorant enough to consult them, can disseminate broadcast in the highways, literature of a kind which can only be called by the one name—“obscene.” The law prevents the publication of literature which is

immoral in its character. It has closed the shops where such literature was sold; and the very printing of such matter is, we believe, an offence punishable with imprisonment. Yet, forsooth, the law is said to be powerless to cope with an evil that is gigantic in its effects, as compared with ordinary literature of immoral type. The evil to the purchaser of the latter commodity ends with the payment of his money for that which is trash in the plainest sense of the word. But the person who may be induced to risk his health in the hands of the quack, in addition to being mulcted of his money, has his health imperilled, or, possibly, for ever weakened.

+ + +

IF Mr. Vincent be correct in saying that “the law is powerless in the matter,” we are tempted to ask how a recent conviction was obtained against the men who pasted their obnoxious bills in public? Why is such an offence punished when an equally heinous offence is being daily committed in our streets? If we could only disclose in full to the readers of HEALTH the testimony we receive week by week from those who have been deluded by quacks, and ruined in health and purse by these leeches, it could be better understood, perhaps, why we regard this question as one of literally national import. Meanwhile, we shall draw the attention of the Home Secretary to the matter, and discharge thereby what we believe to be a duty we owe to the public. If there is no law in England which can prevent the distribution of filthy literature to old and young alike in our streets, then the sooner such a law is framed and put into active operation the better for society and the health of the people.

+ + +

OUR evidence against the quack fraternity is accumulating in a most gratifying manner. We should like, however, to ask those of our readers who have any experiences to communicate regarding the doings of quacks, or who may possess any of the publications issued by these persons, to forward such experiences or publications to us. All such communications should be authenticated by the names and addresses of the writers, merely as evidence of good faith. The experiences we shall use in good time; the names and addresses of our informants will be kept strictly private. Assistance of this kind is the most valuable we can seek or obtain in our crusade against these social pests of our day.

+ + +

THE *Cologne Gazette* publishes every month comparative statistics of mortality. Mr. Bischof has taken the trouble to compile the statistics of last month, and to extract the average death-rate of different countries. Some interesting results are to be found in his communication on this subject. Austria-Hungary has had the average death-rate calculated for four towns, and the rate per 1,000 is 34.6. Bucharest, with one town, gives 32.3; Germany, with fifty-eight towns, gives 30.8; Holland, three towns, 25.8; Brussels itself, 25.6; Copenhagen, 23.8; Paris, 23.5; England and Scotland (six towns), 21.0. Mr. Bischof points out that the size of towns does not necessarily influence the death-rate. He shows that of two apparently similarly-situated German towns Solingen has 14.5 per 1,000, and Siegen, with nearly a like number of inhabitants, has 27.5. Berlin has the highest death-rate of all the towns given—56.3. London, with three times the number of inhabitants, has a mortality of only 21.8 per 1,000.

+ + +

EVERY one knows how the mineral water flowing from some village spring comes in time to be regarded by the local wisecracks as of inestimable value in the treatment of every ill to which flesh is heir. Like the quack pills and



potions, the said water is regarded as effective in curing everything from consumption to a broken leg,—from a sore throat to a sprain. Dr. Crichton Browne's latest discovery should somewhat invalidate the reputation of more than one polluted village "spa." He has had analysed the water of the Brow Well, a village on the shores of the Solway Firth. It was here that Burns in his last illness resided; and the water of the well has long enjoyed a high repute in stomach, kidney, and nervous troubles. The water, it is true, turns out to possess medicinal properties, but—and the word "but" here has a very striking significance—the analysis showed that it was strongly tinctured with sewage-matter, which doubtless had found its way into the well from the adjoining houses, pigsties, and fields. When we learn that the water is much valued by invalids, and that it is largely partaken of at this season of the year, the risks run in drinking such a polluted beverage can readily be estimated. As things are, it is just possible such water may have conveyed disease, instead of curing it; and it is satisfactory to learn that an application is to be made for the closure and purification of the well.

\* \* \*

SOME time ago we directed attention to the dangers which attend the consumption by children of the "ice-creams" (?) sold in the streets. A warning regarding ice itself as commonly used will not be out of place at the present thirsty season. Pure ice—that is ice produced as the result of the freezing of pure water—is, of course, as harmless as the water itself. But it is well-known that ice for summer use is often taken in winter from sources by no means above suspicion. Ice taken thus from ponds, canals, and rivers may represent a highly impure mass of frozen matter. The cold does not destroy the offensive matter contained in the water; and hence, unthinkingly, we may liberate into our beverages in the form of ice matter which we should not be liable to swallow had it remained in the liquid state. If ice is to be used, it should be certified to be pure. What has been said of the dangers of impure ice applies with increased force to such when used in the ice-cream barrows of the streets.

\* \* \*

IT is well to know that in cases of collapse and sinking the injection of 30 minims of ether into the skin, after the common fashion of injecting morphia, is a most valuable and successful means of restoration. The action of ether in such a case is speedy and effectual. Such a hint is useful to all who, away from medical aid, may, under any circumstances, require to exercise knowledge in the saving of life.

\* \* \*

A CURIOUS case of death from the bite of a pig has been reported in Birmingham. The son of a pork-butcher, whilst playing with a pig, was bitten on the hand. The case was treated at a hospital, but symptoms of blood-poisoning supervened, and the patient died. No further details are given, nor does the report mention if the blood-poisoning was regarded as due directly to the bite or was of secondary nature. There is nothing specially dangerous about the bite of a pig, but the explanation of the above case may possibly be found to rest more upon the recognition of the foul habits of the animal occasioning a poisoned wound, than upon anything "poisonous" in the pig's bite by itself. A clean pig's bite, in other words, is not dangerous in so far as "poisoning" the wound is concerned, any more than would be the bite of a man, though it is possible that where the teeth or mouth-secretions are infected, in either case mischief might follow.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### MEDICO-ELECTRICAL APPLIANCES AND THEIR EMPLOYMENT AS AIDS TO HEALTH.

BY WM. LANT CARPENTER, B.A., B.Sc., &c.

#### THIRD PAPER.

IN the last article we endeavoured to point out clearly the important distinction between electric and magnetic appliances, and explained the conditions under which alone electric currents could be obtained from the latter—conditions which were absolutely incompatible with any practical use of those which were intended to be worn upon the person. Without altogether denying the possible effects of wearing pieces of magnetised steel near the skin, we pointed out that, in order to develop any electrical currents in the body, the magnets in such appliances ought to have their axes at right angles, instead of (as they always are) parallel, to the surface of the body. And we also stated that very little, if any, satisfactory evidence in favour of the physiological action of magnetism had been produced. We also warned our readers against the inaccurate use of such phrases as "electro-magnetic," "magneto-electric," &c., which occurred so frequently in the pamphlets and advertisements issued by the vendors of magnetic appliances, which phrases were intended to lead the reader to believe that electric currents were produced by the appliances in question. It is a somewhat remarkable fact that the most absurd advertisements (regarded from the scientific point of view), regarding the electric, magnetic, and "odic" (*sic*) force developed by these appliances, are to be found in the "religious," or "theological" journals of the day, where also occur the most extraordinary accounts of cures, which, *if really true*, can only be explained on the principles of "faith-healing" before alluded to in Dr. Wilson's articles on that topic. Since that article was written our attention has been drawn to certain passages in some of the technical electrical journals, all of which sound the same note of warning. Our readers may be glad to refer to the *Electrical Review* for Feb. 17, 1882, the *Electrician* for April 29, 1882, the *English Mechanic* for Feb. 13, 1880, and the *Daily News* report (Feb. 23, 1882) of Prof. S. P. Thompson's opening lecture at the Crystal Palace Electrical Exhibition.

The only magnetic appliance of any value for producing currents of electricity is that which depends for its action upon Faraday's great discovery, made, in 1831, in the laboratory of the Royal Institution, viz., that when a conducting wire is moved through a magnetic field (*i.e.*, through that portion of space under the influence of a magnet) momentary currents of electricity are induced in that wire. This principle is applied, in the machines under consideration, by causing two small coils of insulated copper wire to rotate rapidly in front of the poles of a permanent steel horse-shoe magnet. The ends of these coils are connected by flexible wire cords to brass handles, which may be grasped by the moistened hands, or applied to any part of the body; the ends of the handles are hollow, and wet sponges may be partially inserted therein, in order to apply the current conveniently to the surface of the previously wetted skin. These machines vary in power according to the size and strength of the magnet, and the strength of the current produced by them varies also with the speed of rotation of the coils. The strength of



the current that circulates through the body, when that is put into circuit, depends in great measure upon the size of the electrodes which are in contact with the skin (the larger the better), and more especially upon the state of the skin, which should be kept as moist as possible, since the dry outer skin is an almost perfect insulator, and scarcely allows any electricity to pass through it—a point that will be more fully dealt with in a later article.

Two or three points are worthy of attention in connection with this machine. It is a good example of the principle of the Conservation of energy—the mechanical energy of rotation being transformed into electrical energy in the wires, illustrations of which on a grand scale are provided by all dynamo-machines used for electric lighting. The currents, however, thus produced are not continuous and constant, but intermittent in character; and moreover, unless the machine is furnished with a special commutator for altering the direction of the currents, which is very rarely the case, they are alternately in opposite directions. Moreover, it is a curious physiological fact that our nerves are much more sensitive to any interruption in the flow of an electric current than to its continuous passage, a slight shock being felt whenever a current commences or ceases to flow, although that same current flowing uninterruptedly for some seconds, or minutes, would produce no sensation. Hence, as these small magneto-machines cannot, from their nature and construction, give anything else than rapidly-intermittent currents (although the construction of a large dynamo-machine admits of the production by it of a powerful continuous current in one direction), the necessary sensations attending their use are not of the pleasantest. Of these machines it may be safely asserted that, when a person in normal health feels no sensation on firmly grasping the handles with wet hands, no current is being then produced strong enough to pass through the body; a statement which, as will be seen in the sequel, is by no means true of *continuous* currents, and of apparatus for their production. The machines now being described may be purchased of almost any scientific optician or instrument maker, under the name of medical magneto-electric machines, and they vary in price from 10s. or 15s., to £2 or £3; many of the cheaper (but not necessarily less efficient) forms are made in America. They are usually provided with a sliding “keeper” to the magnet, and the strength of current circulating in the coils may be regulated at pleasure by pushing in or out the rod attached thereto.

Having seen how motion can be converted (through a magnet) into electricity, let us turn to the reverse side, and see how electricity can produce motion, since upon this principle depends the construction of that most useful instrument for testing electrical apparatus—the galvanometer. The discovery is due to Oerstedt, of Copenhagen, and was made in 1820; it may be thus stated. If a wire be laid near and parallel to a magnetic needle which is free to move, and a current of electricity be sent along the wire, the needle will be turned from its position and place itself across the wire (the particular angle depending partly on the strength of the current), and will remain there as long as the current continues to flow. The side towards which the needle moves, depends upon the relative positions of it and the wire, as well as of its north and south pole, to the direction in which the current flows; the mere movement of the needle in either direction is all that need concern us at present. The sensitiveness of this simple arrangement is greatly increased if the wire be covered with silk and coiled several times over and under the needle and its pivot, so that the needle vibrates in the middle of a coil of wire; and still greater delicacy is obtained by the use of two needles, on a single axis or pivot, one inside the coil and

one above it, placed parallel to each other, but with their poles pointing in opposite directions. Such a combination is called an *astatic* needle, the influence of the earth's magnetism being got rid of by this device, and the whole arrangement constitutes a *galvanometer*. It is obvious, therefore, that any description (such as occurs repeatedly in a pamphlet now before us) of an ordinary pocket-compass, *i.e.*, a magnetic needle alone, without any wire, as a “simple pocket galvanometer” is directly and deliberately calculated to mislead the unwary purchaser. When it is desired to use a galvanometer, the ends of its coil of wire are connected by means of the small binding-screws with which it is always provided, with the ends of the wires leading from the apparatus to be tested, which may be a long distance off; when these are properly connected, the movement of the galvanometer-needle indicates that a current is passing.

Galvanometers are constructed of all degrees of delicacy, and for very various purposes. Their general principle, however, has been sufficiently indicated. A simple galvanometer, suitable for testing medical electric apparatus, may be purchased for a few shillings from any manufacturing electrician, and the price of such instruments is always quoted in their published catalogues. In using one to test the efficiency of any medical apparatus, two experiments should be made. First, set the apparatus (whatever it be) in action, and connect the ends of it by wires with the screws of the galvanometer, taking care, if the wires employed are naked (*i.e.*, not covered with silk, cotton, guttapercha, &c.), that they do not touch each other; observe the deflection of the needle that occurs. Secondly, so arrange the apparatus that the current passes both through the human body and the galvanometer, and then observe the deflection, if any. This may be done best by carrying a wire from either of the galvanometer screws to either of the ends of the electrical apparatus, then inserting one flexible cord or wire with its handle into the remaining galvanometer screw, and the other cord into the remaining end of the electrical apparatus. When both handles are grasped with moist hands, the circuit will be complete; and if the appliance have energy enough to overcome the resistance of the body, and to send a current through it, the needle will now be again deflected, but probably to a less extent.

It may be expedient here to warn our readers against trusting too much to a certificate which is supplied with some pieces of medico-electric apparatus to the effect that it “has been tested with a galvanometer by an electrician.” Such an appliance lies on our table as we write, and it is claimed on its behalf that it gives a constant current. This is perfectly true; it does give such a current, and on trying the first experiment described above, our galvanometer was deflected. When, however, we tried the second experiment by placing our body in the circuit, we utterly failed to get the smallest deflection of the needle, thus proving incontestably that the little battery in question was not powerful enough to overcome the resistance of the body. When we say that the resistance between the two palms of the hands is in electrical language frequently as much as 13,000 or 14,000 Ohms, or just about equal to the resistance of one of the Atlantic cables, it will be obvious that a considerable amount of electro-motive force is necessary to overcome it.\* In the

\* The so-called electrical resistance of the human body varies enormously, according to the state of the outer skin, and the size of the electrodes (*i.e.*, plates or handles at the ends of the conducting wires) used in contact with it. The subject is being personally investigated at some length by the writer, who will deal with it in one of the later articles of this series.



case in question, we tested against this so-called "constant current medical battery," one of the medical Leclanché cells spoken of in an earlier article. This latter cell could be purchased at one-quarter the price of the other, it weighed very little more (*i.e.*, was just as portable), and its electric energy was considerably greater, although not sufficient to overcome the body's resistance. Two or three of them, however, costing less altogether than the single advertised and puffed cell alluded to, would be far more efficacious.

In the next article we shall give another mode of testing the electrical efficiency of appliances, and shall explain some of the differences in the physiological effects of continuous and intermittent currents.

## HYDROPHOBIA: ITS NATURE, CAUSES, AND TREATMENT.

BY DR. ANDREW WILSON, F.R.S.E.

### SECOND PAPER.

To begin with, there is no hesitation in ranking *hydrophobia* as a *specific* disease, induced and propagated in man, by inoculation with the saliva of a dog afflicted with *rabies* or canine madness. In other words, the changes produced in the saliva of a dog afflicted with the canine disease known as *rabies*, render that fluid capable, when introduced into the blood-circulation of a human being, of inducing the symptoms of *hydrophobia*. *Rabies* is essentially a distinct disease from *hydrophobia*. The latter originates from the former. "*Rabies in the dog*," says Sir Thomas Watson, "is quite different and distinct from *hydrophobia in the man*." The "*rabid*" dog is never *hydrophobic*. When a *rabid* or "*mad*" dog bites another dog, *rabies* is produced in the latter. *Rabies* propagates *rabies*, in other words. So far as is certainly known, *hydrophobia*, the human disease, does not reproduce itself; although some authors believe that the bite of a *hydrophobic* man will produce that disease in another person. Youatt was of this latter opinion. An experiment was performed at the Hôtel Dieu in Paris, in which two healthy dogs were inoculated on June 19, 1813, with the saliva of a *hydrophobic* man, who died on that day. On July 27 one of the dogs became *rabid*. Other dogs bitten by this dog developed *rabies*. The only difficulty in this case, which otherwise appears conclusive, is the question of the exact origin of the disease in the first or inoculated dog. At least, this experiment should render the treatment of a *hydrophobic* man a matter of care in so far as his saliva is concerned.

That the virus or poison contained in the saliva of the dog is in reality the exciting cause of *hydrophobia* appears to be an unquestionable fact. Persons who are bitten by dogs in a state of health never suffer from *hydrophobia*, and it need hardly be remarked that the disease has never been known to arise independently of the bite of a diseased animal, usually a dog—but, according to some authorities, occasionally the cat; whilst, as alleged in the historical case of the grandfather of the present Duke of Richmond, the saliva of the fox may serve as a medium for the generation of the virus. This latter case, however, appears to present some elements of doubt. According to the usual account, death was caused in Canada by the bite of a tame fox, which the Duke was endeavouring to separate from a pet dog with which it was fighting. Another account alleges that the bite was inflicted by the dog. But the case, although apparently of undetermined nature as to the exact origin of the poisonous matter, need not be regarded as presenting any very exceptional elements; since the occurrence of

*hydrophobia* in other carnivorous animals besides dogs would form no unusual feature, but, on the contrary, would be regarded as perfectly natural, viewed in the light of other facts relative to the distribution of disease.

The probability that other carnivorous animals are affected by *hydrophobia*, and that they may communicate the disease to man, is supported by cases in which inoculation from the fox has been clearly proved. Cases are also given in which the bite of a racoon has caused this disease. Dr. Russell, of Massachusetts, having recorded such a case in 1856. The badger, another carnivorous neighbour of the dog, has, according to Youatt, produced symptoms of the disorder. The bite of the horse has been also credited with its production. Youatt mentions one case of this kind, in which a groom exhibited *hydrophobic* symptoms after receiving a slight scratch from a horse's tooth. That the saliva of the horse may prove a medium of infection in man is by no means unlikely, when it is considered that from this animal man may be infected with another disease, namely, "*glanders*," which fully equals *hydrophobia* in its serious effects on the human frame. The *scratch* of a cat is said to have caused *hydrophobia*; but, if this result accrued from a scratch, it is most likely that the animal had really derived the poison from its mouth, and had thus inoculated the disease. It is clearly to the saliva of the mouth that we must look for the origin of the disease. The poison of *hydrophobia* is, therefore, clearly to be ranked in the category of "*blood-poisons*," or those which produce their effects only when they are introduced directly into the circulation, and when thus mingled with the vital stream. As examples of poisons which also act in this way may be cited the virus of serpents, or the matter derived from decomposing human tissues in a dissecting-room or post-mortem theatre. The former is introduced into the circulation by the poison-fang of the reptile, the other on the point of a scalpel or needle. One very remarkable feature in the action of these animal or blood poisons is that involved in the fact that they may be swallowed, as a rule, with impunity. An ounce of serpent-poison, one drop of which would produce death if introduced into the circulation through a break in the skin, might be fearlessly swallowed—provided, of course, that the lining membrane of the mouth and stomach was perfectly intact. As may readily enough be understood, the changes, chemical and otherwise, which the virus undergoes in the mouth and stomach, render it innocuous, and, when duly absorbed from the digestive system, the poison-matter will enter the circulation in an altered and harmless form. The facts just related, even when viewed apart from their connection with the present subject, are singularly interesting as demonstrating the peculiarity of the conditions, in virtue of which a substance so deadly, when placed in one situation, becomes harmless when introduced into the organism through another channel.

Various writers have pointed out, however, that it is possible that the poison of *rabies* may be absorbed into the circulation—even through the sound mucous (or lining) membrane of the lips, mouth, &c. Mr. Youatt was very firmly convinced of the correctness of the belief that the saliva of a *rabid* animal could not infect a man through the healthy and unbroken skin; but he also believed that, if the canine saliva were brought in contact with the mucous membrane of the mouth or elsewhere, *hydrophobia* might follow. His own hands, he added, had many times been covered with the saliva of mad dogs without any result following the application. A man on one occasion used his teeth to untie



a knot in a rope. Eight weeks afterwards, he died from hydrophobia. The case was explained on the ground of a mad dog having been tied up with the rope in question. In another case a mad dog tore a woman's gown. In sewing the gown she pressed the seam with her teeth, and in this case, also, death from hydrophobia supervened—presumably from the lips being infected from the gown. Cases are recorded in which horses have died of rabies after eating straw on which rabid pigs died. Two dogs licked the mouth of a rabid dog, and died from rabies in eight days thereafter. Dr. Perceval gives a case in which a mad dog licked the face of a man who was asleep. The man died of the dreaded disease; but examination failed to discover any cut or chap in the skin through which the poison could have been absorbed. "These facts," says Sir Thomas Watson, "if authentic, settle the question; unless, indeed, the lips of those who perished happened to have been chapped or abraded."

The tissue of errors with which the entire subject is surrounded may be said to include the erroneous designation of the disease as far as the dog is concerned, since the term "hydrophobia" literally implies a dread of water, and the popular idea of the chief symptom in the disease is that of the afflicted—and, properly named, the "rabid"—animal flying from the very presence of that liquid. This idea is utterly erroneous. So far from shunning water, a "mad" dog will immerse itself in the liquid, and endeavour to drink—an act which, however, the animal is unable to perform owing to the paralysed condition of the jaws, and from the consequent inability to swallow liquid of any kind. So also the term "rabies," indicating, according to popular notions, a state of violent fury and madness, is a misnomer as far as the dog is concerned; indeed, maniacal excitement on the part of the animal is rather the exception than the rule. As a description of the symptoms of rabies in the dog is not only a very necessary item in an article devoted to the consideration of the subject of hydrophobia, but is calculated to be of useful nature, the invasion and course of the disorder may be noticed at the present stage of our inquiries. Certain premonitory symptoms appear to mark the invasion of the disease, these indications being best marked in changes in the habits and disposition of the animal. The temper becomes sullen. The animal is restless and fidgety, and is continually gnawing or scratching some portion of his frame. Soon the symptoms of depraved appetite begin to be observed. The animal picks up and eats all kinds of odd substances, and it may be noted that presumptive evidence of the disease having existed may be found in the fact that the stomach on *post-mortem* examination is found to contain a miscellaneous assortment of articles which the dog has swallowed. Saliva begins to flow from the mouth, and distressing symptoms, connected no doubt with difficulty in breathing and the accumulation of viscid mucus in the mouth, begin to be apparent. One very noticeable symptom is the continual working at the corners of the mouth with the paws, as if the animal were endeavouring to remove something entangled between the teeth. Paralysis of the lower jaw next sets in, and is succeeded by general paralysis of the limbs, culminating in the fall of the animal. The breathing becomes laboured and heavy; the bark is short, sharp, and unnatural; and, with the occurrence of graver nervous symptoms in the form of convulsions, the animal dies at a period varying from the fourth to the sixth, or even the seventh day of the disorder.

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## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### PLANTS IN BEDROOMS.

By C. M. WALKER, M.A., B.Sc., &c.

THE health-topics connected with plant-life in bedrooms come frequently to the front in ordinary life, and are commonly discussed with reference to the supposed injury which plants are capable of inflicting on the sleepers. To understand perfectly the rights and wrongs of this matter, is by no means a difficult task. We only require a slight knowledge of plant-life and its functions to enable us to determine whether or not plant-life is dangerous to animal life at night. Primarily, one might say that a sleeping apartment is hardly the most suitable place for the growth of plants—in an æsthetic sense, at least. In ordinary experience, one sees plants in bedrooms chiefly in country districts, and for the most part in cottages, where room is limited, and where tastes botanical have but little space for their full gratification. Still, the problem is one of health; and as the topic appears to be a highly debatable one, where the debaters, at least, possess little knowledge of plant-physiology, it may be well that we should endeavour to see what botanical science says on this head.

A green plant differs widely from a non-green plant in its habits, food, and life at large. The green colour of plants is due to a compound known as *chlorophyll*. The presence (or absence) of this matter makes a paramount difference in the world of plant life. A fungus, for example (*e.g.*, mushroom), which possesses no chlorophyll, resembles an animal in its feeding. It subsists on organic or living matter, usually in a state of decay; it inhales oxygen like an animal, and exhales carbonic acid gas like the animal hosts around. As a matter of fact, fungi and other non-green plants (*e.g.*, dodder, &c.) live either on decaying animal or vegetable matter, or upon fresh living matter. In the latter case they are *parasites*. The mistletoe, which is a parasite, derives so much of its nutriment from the tree to which it has attached itself; but, having green leaves of its own, it can elaborate a little food for itself, and thus preserves a certain likeness to its normal plant allies. But a fungus which breeds in the skin-tissues of animals, like that which causes ringworm, or those which cause other parasitic skin-diseases, are thoroughly animal in their nature. They feed upon the living tissues of their host, and in this respect are more nearly allied to animals than to plants.

A green plant, on the other hand, is a far more typical plant than its non-green neighbour. The green plant is satisfied with *inorganic* or non-living matter for its support. It firstly demands *water*—although in this respect it certainly resembles all animals, man included, and all other plants. The second item in its bill of fare consists of *minerals*, and of these green plants have at command a tolerably large selection—a feature in which also they present a resemblance to other plants and to animals. The third demand of the green plant is for *ammonia*, which it takes up from the soil for the sake of the nitrogen that compound contains. Last of all the plant requires *carbonic acid gas*, which, as most of us know, is breathed out by animals, and which is itself a source of danger to animal life if breathed in sufficient quantity or for a sufficiently long time. This carbonic acid gas is composed of the elements Carbon (C) and Oxygen (O), and in chemical language is accordingly spoken of as CO<sub>2</sub>.



Now, in the presence of light, a green plant—in virtue either of its chlorophyll alone, or, as some authorities maintain, by aid of this green matter and the living protoplasm of the plant combined—is able, firstly, to absorb carbonic acid gas from the atmosphere; and secondly, to decompose it, or to split it into its two elements. In the latter operation, the carbonic acid ( $\text{CO}_2$ ) is, therefore, resolved into its component carbon (C) and oxygen (O); and the carbon is retained by the plant as part of its food-supply, whilst part of its oxygen is set free and is allowed to pass back to the atmosphere. The carbon retained by the plant unites with the elements of the water it has absorbed, to form the various substances or compounds (starch, &c.) of which the plant is built up. Thus, to put the matter as popularly as possible, that which the animal breathes out (carbonic acid), the plant takes in; and what the green plant breathes out (oxygen), the animal inhales as part of the air it inspires. A green plant growing in the light is, therefore, so far, an atmospheric purifier, in that it removes from the air the gas which, as a product of animal waste, is in itself injurious to animal life.

But, in the absence of light, it would appear that the functions of the green plant undergo a very striking modification. Doubtless, at all times, the green plant, like the animal, demands a supply of oxygen for the due maintenance of its vital functions. "Respiration," or "breathing," which, in the animal consists in the inhalation of oxygen, and the exhalation of carbonic acid gas and other waste matters, also goes on in plants. It seems, in truth, that for the life of a plant, oxygen is as necessary as for the animal. It is in the work of nourishment and assimilation that we see the green plant taking in carbonic acid gas as part of its food; but it would also seem as if, hand in hand with this process, the plant gave off carbonic acid gas as part of its useless products. This is really the case. We should bear in mind, however, that the former process, that of nutrition (whereby carbonic acid gas is taken in and oxygen given off), is a rapid and active process, whereas the opposite action by which oxygen is received and carbonic acid given off is a relatively feeble one. By the former process, as we have seen, starch and other compounds are formed in the plant; and as it can only take place in the light, plants grown in the dark do not form starch but lose weight, and finally die. It is also interesting to learn that a plant will die suffocated, like an animal, if placed in an atmosphere of pure carbonic acid gas.

Turning, lastly, to the case of the green plant at night and in the dark, we see there that whilst the process of starch-formation, the splitting of carbonic acid, and the exhalation of oxygen practically cease, the "breathing" of the plant continues. That is to say, in the dark, the green plant undoubtedly, as in the day, will give off carbonic acid gas, like the animal. In this light, it may be thought that plants in bedrooms must necessarily be injurious to health from this exhalation of carbonic acid gas. But, as a recent writer remarks, "most people know that carbonic acid gas is poisonous, and it is very common to hear people talk as though a pot or two of geraniums might be expected to choke them in their sleep with the noxious fumes given off. It may interest such persons to know that experiments have been made with the view of determining precisely what is the effect of plants on the night air. Volumes of air were taken about the middle of the day from various parts of a conservatory containing 6,000 plants, after it had been closed for twelve hours. Out of 10,000 parts there were found to be 1.39 of carbonic acid. Now the purest of air out of doors contains ordinarily about 4 parts in 10,000 of car-

bonic acid. There is always more or less of it in the freshest of breezes, and the difference between the 4 parts in the open air and the 1.39 in the greenhouse was due chiefly, no doubt, to the action of the foliage. The air of the same greenhouse was similarly analysed just before sunrise, and the carbonic acid amounted then to 3.94 parts in 10,000, or as near as possible to the proportion always met with in the open air. The action of the plants during the hours of darkness was thus barely sufficient to neutralise the production of oxygen during the daytime, and scarcely brought up the terrible carbonic acid to the normal proportion in the atmosphere. This, it must be remembered, was the effect of 6,000 plants in a single apartment. It seems pretty safe to assume that the mischief of a dozen or two in a bedroom is theoretical rather than practical, and that those who like flowers in their bedrooms may indulge their fancy quite safely."

The latter conclusion appears, therefore, to be a sound one; although it should also be borne in mind that certain plants may throw off much larger quantities of carbonic acid gas than others. In any case, where flowers are grown in bedrooms, there should, at least, be free ventilation; and with this latter condition fulfilled, it would seem that plant-growth, under such circumstances, has but little, if any, deleterious influence on health.

LIST OF WORKS ON ELECTRICITY IN RELATION TO MEDICINE.—The following is the letter referred to by Mr. Carpenter in last week's HEALTH:—"To the Editor of the *Electrician*. Sir,—Will you allow me to make a remark anent the letter of your correspondent, Mr. Sprague, page 159? Whilst rightly conceding to electricity curative virtues, and to magnetism little or none, Mr. Sprague regrets that 'medical electricity has been too much left in the hands of a few medical specialists, and that no reliable scientific information can be gained.' I would call his attention to the following list of splendid works on medical electricity, published in England and abroad, wherein he will find much information on the subject, and learn that medical electricity has long since held an important and honourable position.—Yours, &c., J. L. PULVERMACH, 194, Regent-street, W., July 2, 1883."

- Dr. Golding Bird. Guy's Hospital Reports, p. 107.
- Dr. Heidenreich. Elements of Therapeutic Physics, p. 248. 1854.
- Dr. T. Pereira, F.R.S., &c. *Materia Medica*, p. 53, ed. IV. 1854.
- Dr. Duchenne. *Local Electrification*, p. 39. 1855.
- Count Du Moncel. *Application of Electricity*, pp. 237 and 239, II. 1858.
- Dr. Becquerel. *Electricity, its Application in Medical Treatment*, p. 36. 1857.
- Dr. O. Kowalewski. *Electricity and Medical Treatment*, Vol. I., p. 12. 1857.
- Professor De la Rive. *Treatise on Electricity in Theory and Practice*, Vol. III., p. 604 to 609, ed. I. 1861.
- Dr. Tripier. *Manuel d'Electrothérapie*, p. 84, ed. I. 1861.
- Dr. Garratt, of Boston. *Electro-Physiology and Electro-Therapeutics*, d. 117. 1861.
- Dr. C. B. Radcliffe, M.D. *Epileptic and Convulsive Affections*, p. 180, ed. III. 1861.
- Dr. Garratt. *Medical Use of Electricity*, p. 117, ed. II. 1861.
- Dr. Desparquets. *L'Electricité appliqué au Traitement des Maladies*. 1862.
- Dr. Wunderlich. *Pathology and Therapeutics*, Vol. I., p. 113. 1863.
- The Gazette des Hôpitaux, Paris, 27th July. 1862.
- Drs. Hamilton and Allan. *Clinical Electro-Therapeutics*. 1873.
- Drs. Beard and Rockwell. *Medical Surgical Electricity*, p. 13, ed. I. 1871.
- Dr. G. V. Poore. *Electricity in Medicine and Surgery*, p. 5. 1876.

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## The Family Circle

"The child is father of the man."—Wordsworth.  
"In bringing up a child, think of its old age."—Joubert.

### THE NURSERY IN RELATION TO HEALTH.

By T. GOODALL NASMYTH, M.B.

THIS important subject must necessarily recommend itself to all who have an interest in the up-bringing of children, and to those who take an interest in the future population of a country, for the State is certainly affected by the young race that will grow to be its inhabitants, and to fill the various positions and duties of life. The manner in which those are filled and performed will depend upon, in a great degree, the care and attention which has been bestowed upon the subjects in early years, not to take into account the many who never reach maturity from want of such attention. Thus, the State is directly concerned in the up-bringing of children.

Children are peculiarly liable to many diseases, and which are looked upon almost as necessary parts of their lives; but this should not be so. Those diseases, such as measles, scarlet-fever, whooping-cough, &c., should not be so prevalent, and it should be our endeavour to prevent such lamentable outbreaks as do occur with such fatal consequences. By attention to the laws of health, these would not be so prevalent; and it is right and necessary that parents should become familiar with those laws, and assist by all that lies in their power to prevent the occurrence of an outbreak, or to stamp it out when it does occur. HEALTH proposes to furnish to its readers information on this and other subjects, and it is undertaking a most valuable work. In my remarks on the subject I do not wish to describe a nursery the perfection of elegance and luxury, for these conditions are not within the reach of everybody, but just discuss shortly the various arrangements to be recommended as conducive to the health of the nursery.

A nursery should, if at all possible, be situated at the front of the house, so that the room may have the full benefit of sun-light. No room can be healthy where sun-rays do not enter, for various reasons. Such as: the sun illuminates dark corners where dust might lurk, otherwise unobserved. Sun rays act by destroying disease germs, and we all have observed that plants grow up delicate, pale, and sickly, when there is not enough sunshine, and children are affected in the same manner; they become pale and delicate-looking. And then, of course, the room has the benefit of the heat from the sun, and which is always more genial than artificial heat.

The nursery should also be on the upper part of the house—not on the ground-floor, as it would thus be more likely to be damp; and as regards the size of the room, it is better to be as large as possible, for the sake of ventilation. The nursery, even with all due precautions, may have to be an infirmary, and to carry out the conditions for such an emergency, various suggestions, as the following, would be useful:—The room to have double doors, so that when one was opened to allow egress or ingress, cold air would not be allowed to rush in and aggravate, say, an attack of bronchitis or rheumatism; and the windows might be double—at least, in a cold neighbourhood. Carpets on the floor of a nursery may be desirable, but they are not advisable; and an oaken floor, waxed, would, in my mind, be preferable, as carpets are so apt to become infected with disease, and cannot easily be disinfected; or

the floor might be covered with waxcloth, which, like wood, can easily be washed and kept thoroughly clean. The walls of the room, should either be painted or lined with glazed tiles, as paper acts in infectious diseases also as a vehicle for retaining infection, and may contain poisonous ingredients, as arsenic. A paper has one advantage—it supplies variety of objects for children's attention, but lively pictures on the walls, as bright in their colour and spirit as possible, will more than balance the want of this. The room should always be kept at a temperature of about 60° Fahr.; it is a great mistake to think that by keeping a cold room you can harden children—they will break down in the process. And to heat the room an ordinary fire is best; the grate should have fire-clay back and sides, as those throw out a much greater heat, and a room with them does not cool down nearly so quickly as with grates without this arrangement. Of course, there ought always to be a wire protector in front of the fire, or a fence of some description.

The furnishing of a nursery ought to be of the simplest and, at the same time, the strongest description. It is not necessary to enter into full details of all that ought to be in the room, but mention must be made of the important bed arrangements. It seems to be a universally common custom for infants to be lulled to sleep in cradles on rocking principles, and an infant accustomed to this will not sleep in any other condition, but as this is not a good or safe method, they should not be begun by sleeping in rocking cradles, but in ordinary cribs or bassinets. For older children, iron or brass cribs are by far the best, and as little drapery as possible should be used in their construction. Curtains prevent free ventilation, and are subject to the same objections as carpets. Every day, the bed-clothes, &c., should be removed from the bed, and exposed freely to the air, the windows being drawn down, and the door opened. Then, of course, the children must not be in the room, but out for open-air exercise, or in some other room, as in the day-nursery, in those houses where there is this useful additional room. Children from their earliest infancy ought to be out every day, with few exceptions, taking sufficient precautions against cold. I do not advise infants or children should be wheeled about in perambulators. They are much readier to catch cold than being carried in their nurse's arms, until they are able to do a little walking for themselves, and thus can keep up the temperature of their bodies by the exercise. In connection with the subject of the nursery many other points of importance have not been entered into at all, such as the clothing, feeding, amusements, &c., of children, my object in this brief paper being only to discuss the architectural features of what a well-constructed nursery should be.

**BAD NEWS FOR THE TEETH.**—A recent investigator says that in every case of decayed teeth he has examined microscopically, he has found a minute fungus growing deep into the structure of the tooth. These fungi, belong apparently to the *bacillus* type. It is hard to find an organ of our bodies which does not serve as a dwelling-place for some microscopic guest, harmless or the reverse.

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."—[ADVT.]



## Healthy Houses

"A happy home must be a healthy home."—Anon.

### DRAINS AND HEALTH.

By G. E. WARING, JUN.

(From the *North American Review*.)

#### PART I.

SANITARY drainage, as we know it in America, has been a peculiarly progressive art. Forty years ago, towns were seweraged to get rid of their surface and subsoil waters,—mainly to prevent the flooding or dampness of cellars, and the obstruction of traffic by the accumulations of storm-water. Agricultural lands were drained for agricultural improvement. Houses were drained for convenience. "Sanitary," so far as common speech was concerned, was a word uncoined. Edwin Chadwick, then a middle-aged enthusiast, had barely inaugurated the movement, which the world was so slow to take up, which has owed so much of its progress to his study and sustained impulse, and of which, as a hale octogenarian, he is still one of the most lucid, most enterprising, and most effective promoters.

Though till then carried on with little reference to the health of the person or of the people, the drainage of houses and grounds and towns had become a somewhat systematic art. The storm-sewers of the first half of the century constituted the basis of the sanitary drainage which was to follow. The covered creeks and the subterranean waterways of London and other cities, constructed with a widely different purpose, were used for the discharge of a gradually increasing proportion of the offscourings of the population. Following Chadwick's suggestion, the subject of separating this foul flow from the storm-water drainage, after much discussion, obtained a certain amount of practical development. It had elicited much instructive discussion, and not a little acrimonious debate, at the time when the improvement of town sewerage began to receive intelligent attention in America. The first important contribution to this branch of our municipal literature was made by Mr. Chesbrough, who, in 1858, reported to the local authorities of Chicago the results of a careful and critical study of European drainage systems, offering at the same time a sewerage project for the apparently impracticable swamp area which had been chosen for the site of that city—a scheme which, for the time when it was projected and the conditions by which it was limited, was a more than notable example of successful and intelligent engineering skill. The same talent applied now to the same conditions, in the light of what has since been learned, would produce a different and better plan, but hardly one so much in advance of the examples in which it originated.

The sewerage of Chicago, and Mr. Chesbrough's later work at New Haven and elsewhere, have had a controlling influence on the sewerage systems of the country. Among the best examples of similar work executed by other engineers, may be cited the sewerage of Providence, of Brooklyn, and of the upper part of New York. But, after all, a review of the drainage works of all the cities of the country shows, on the whole, how limited has been the influence of any sanitary suggestion. The drainage systems of our newer towns is generally bad, and those of the older ones is even worse. Taken as a whole, the old peninsular of Boston is a quite complete museum of almost every con-

ceivable mistake and defect in public sewerage. It has some good sewers, but an unusual proportion of very bad ones, as is shown by an illustrated report on the subject made by Eliot C. Clarke, Esq., to the Massachusetts State Board of Health. Philadelphia offers in its older and its best peopled portions much less variety of defect, but an almost universal dissemination of defects of very serious character.

Boston, Buffalo, and a few other large towns are now executing or considering the construction of great intercepting trunk-sewers to keep their foul outflow out of adjacent waters. It would have been more logical if the authorities of those cities had first secured the reconstruction of their interior sewerage systems, and so remedied faults which have a far more immediate effect on the health of the people. Certainly, a logical sequence of their present efforts must be an extension to the interior of the town of the principle of purification now being applied to the water front. The influence of the example of England, where the greatest attention has been given to water-carried sewerage, has been most important. The practice of separating storm-water from foul drainage, advocated there some forty years ago, and from that time to this largely adopted, was so obviously a move in the right direction, where circumstances favour such a system, that it has at last had marked effect in this country, where, indeed, it has received important modification and amendment. Many smaller towns, for which sewerage was recently not thought necessary, are now discussing the propriety of introducing complete works, or are actually carrying them out, advantage being taken in many cases of the greater economy and cleanliness of the separate system. Indeed, this system is being considered for portions of our larger towns in some cases, in others for whole towns. Baltimore, for example, where the existing sewerage works are confined to some dozen miles of storm-water conduits laid in the low-lying parts of the town where surface water used to accumulate, is now actively considering a project submitted by its engineer, Mr. Charles H. Latrobe, for the complete sewerage of the whole city—over one hundred miles—on the system of the entire separation of storm-water, as carried out in Memphis. New Orleans has adopted the same system, to be executed when, if ever, it shall be able to procure funds for the purpose.

Ordinary brick sewers, as built from immemorial time, are practically very far from being impervious to water. The original purpose of their construction has usually been to carry away storm-water flowing on the surface of streets and of private property; but one of their most beneficial offices has been found to be the incidental removal of the surplus moisture of the soil—an effect the influence of which upon public health has always been great. So obvious, indeed, has been the advantage of such soil drainage that, where tightly-jointed vitrified pipes are used in heavy soils it is usual, in the best practice, to lay porous draining-tiles in the ditch, or, in practice not so good, as in recent work at Newport, to leave the lower part of the joints of the pipes uncemented, securing in this way, when the ground is saturated, an efficient subsoil drainage. Unfortunately, this method secures also the unintended result of allowing foul sewage to spread itself throughout the soil during dry seasons, poisoning the ground and robbing the heavier part of the sewage of its requisite means of transportation, stranding it as a deposit in the pipes.

The influence of subsoil drainage on the general health of the people, and especially in removing or mitigating fever and ague in malarious regions, has been quite as marked in the case of drainage works carried out in country districts for purely agricultural reasons. The



result of such drainage in England, in districts which were formerly extremely malarious, has been most important and lasting, and it is now the accepted belief on all sides that the sovereign remedy for fever and ague is the complete drainage of all moist land in the neighbourhood.

(To be continued.)

THE young man whose sole ambition it is to row in the University crew, and who devotes his attention to this at the expense of his studies, would probably come to college if there were no crew, and his ambition would then be satisfied with some similar standard. If he gains nothing else, the nut-brown skin, the deep layers of muscles on chest and back and arm, are better than the pallid complexion and flaccid muscles which would come from late hours spent over the card-table, in drinking and smoking.

THE EFFICACY OF CARBOLIC ACID IN TOOTHACHE.—A physician writes:—"Feeling it to be the duty as well as the privilege of every physician to make known to the profession the utility of any agent which he may have found beneficial in relieving pain or curing disease, I send you my experience in relation to carbolic acid as a remedy for toothache arising from caries. About three months since I was distracted with toothache for about twenty hours, during which time I tried all the known remedies, but in vain. At last it occurred to me to try pure carbolic acid, and although at first I felt a little diffident, having never heard of its use in this way before, I applied it, and, to my great relief and agreeable surprise, the pain ceased instantly, and did not return. Having to deal with a large number of the poor in my dispensary practice, I have rejoiced in being able to afford similar relief to many sufferers. One poor woman had not enjoyed a night's rest for nearly two months; but after a little patient application I was able to send her away rejoicing, and I have not heard of the tooth troubling her again. Desiring that others may share in the luxury of *doing good* in this way, as well as receiving relief, I append the *modus operandi* adopted. 1st. Clean out and dry, by means of absorbent cotton, the cavity of the tooth. 2nd. Apply the acid thoroughly in the following manner: Take a piece of wood, according to the size of the cavity (a toothpick or a match will do), and dip the end into carbolic acid—*full strength*; should the hole be very large, a very small portion of cotton may be twisted around the end of the piece of wood. Care is required not to touch the surrounding tissues. It is scarcely needful to add that the acid crystals only need to be warmed to render them soluble. The foregoing applies especially to ordinary toothache; but it will also prove serviceable where the fangs of the tooth are affected, especially if they are accessibly exposed."

MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

NO. XIV.—HEALTH-RESORTS DESCRIBED (*Continued*).

**STRATHPEFFER**, Ross-shire, a famous health-resort of Scotland, noted for its sulphur waters. The town lies in a valley, and is reached *viâ* Highland Railway, which has brought it within fifteen minutes' run of Dingwall. From Edinburgh, Strathpeffer can be reached in about twelve hours. The wells here are strongly sulphuretted, and are akin to the Harrogate waters, although the latter are, on the whole, perhaps, the more potent. In chronic indigestion, chronic gout and rheumatism, and in certain skin diseases, residence here is calculated to do benefit. Rain is tolerably frequent here; but if the season is a dry one, Strathpeffer presents all the conditions looked for in a typical inland resort. Hotels: Ben Wyvis, Spa, and Strathpeffer.

**SWANAGE**, Dorset, is reached by omnibus from Wareham (twice daily). Wareham (Dorset) is 124 miles from London, *viâ* London and South-Western Railway. Population about 2,500. The town lies in a bay at the south-east of the Isle of Purbeck. Bathing is readily had. Swanage is geologically interesting, and some fine scenery lies around. The climate is of the mild type, and is not at all so bracing as on the east coast, or as at the south-east resorts. Swanage suits nervous invalids, dyspeptics, and cases of gout and rheumatism, and scrofulous ailments benefit from a stay here. Hotels: Victoria, Ship, Purbeck. A hydropathic establishment also exists. Return fares (Wareham), 44s., 31s. 6d.

**SWANSEA**, Glamorganshire, 216 miles from London. Population about 66,000. This town lies in the middle of the bay of the same name. "The Mumbles" is distant six miles, and is reached by omnibus, and many visitors prefer to reside at the latter place, where the bathing is good, and the air more bracing than at Swansea. The climate there is of the milder type of sea resorts, and is well adapted for those who fear exposure to cold or chill. For children recovering from illness, and for weakly children generally, Swansea and the Mumbles are well suited. Hotels at Swansea: Castle, George, Mackworth Arms, Rutland Arms, and Cameron Arms. At the Mumbles: George, Ship and Castle, and Mermaid. Return fares: 65s., 48s. 6d.

**TEIGNMOUTH**, Devonshire, distant 209 miles from London, lies on the south coast of its county, and is sheltered in a bay bounded by the Bill of Portland and Start Point. It is seven miles from Torquay (which see), and about three from Dawlish (which see). Shaldon is situated opposite Teignmouth, and on the opposite bank of the estuary of the river Teign. The population of Teignmouth is about 7,000. The surroundings are very fine and picturesque. Typically, the climate is that of South Devonshire at large. The winters are mild and the summers cool. The mean temperature in January is 41·5°, and of July 61·5°. As a winter resort for the invalid Teignmouth is well adapted, although some authorities prefer Torquay or Dawlish. Lung affections at large



benefit from a stay here, as do cases of gout and rheumatism and of other joint-troubles. Hotels: Queen's, Royal, London, &c. Return fares: 60s. 6d., 43s. 9d.

**TENBY**, Pembrokeshire, is 260 miles from London. Population about 4,733. The town lies on the west side of Carmarthen Bay, on the south-west Pembrokeshire coast. It is built on a rocky promontory, and rises to about 100 ft. above sea-level. The new town lies on the south side, where long and extensive sands exist. The drainage is very good, and the general health of the town excellent. This town is adapted both for winter and summer visitors. In 1882, we learn, the lowest winter temperature was 32°, taken on December 10; the highest temperature was 90°, on August 9. The bathing is excellent, and plenty of machines exist. The town is distant 164 miles from Birmingham, 198 from Manchester, and 145 from Bristol. Tenby has long presented attractions of the most favourable kind to the marine zoologist. Its shores are alive with anemone and zoophyte life. Cases of lung-disease and of heart-affections benefit from a residence here, the moist, warm air, even of the winter season, being highly favourable in such disorders, as also in cases of rheumatism and gout. In summer the air is bracing enough to make Tenby a favourite resort for the overworked. Hotels: Royal Gate House, Royal White Lion, Cobourg, Commercial, White Hart. Return fares, 78s. 3d., 58s. 6d. (Mr. W. T. Bill, house agent, will afford every information regarding houses, &c.)

**THURSO BAY**, Caithness, is 720 miles from London. Population about 6,000. The town lies in Scrabster Bay, and has a fine sandy beach. The air is tonic and bracing, inclining to cold in the late months of summer and autumn. Hotel: Henderson's Royal. Return fares: 184s. 6d., 142s. 6d.

**TORQUAY**, Devonshire, is 219 miles from London. Population about 21,000. This famous seaside resort lies within a well-protected bay or cove, which is in turn enclosed in the larger Torbay. The town lies in greater part on the shores of its bay, and faces south-west, being sheltered on the north and east. A number of terraces exist, and form favourite walks. The mean annual temperature is 52°, which is higher than that of any other station, excepting Scilly. The average temperature of spring is 50°; of summer, 61.26°; of autumn, 53.1°; and of winter, 44°. The average rainfall is 35 inches, and the number of wet days per annum about 175. The climate of Torquay may be described as sedative and relaxing near the sea. Above sea level and in the Babbicombe direction the air is more bracing. Even in the month of March, the chronic invalid can enjoy existence without fear of chill. For the treatment of consumption, Torquay has long enjoyed the reputation of being *facile princeps*. Cases of chronic asthma and bronchitis are also benefited here, and rheumatism, gout, and intestinal troubles improve under treatment at Torquay. "In heart disease," says Dr. Tanner, "when this organ is oppressed without much lowering of the vital powers," Torquay may be recommended. Those who suffer from irritable digestion and like troubles are also recommended to reside here for a time. Tropical invalids find Torquay of all places that most suited for their cases. Dr. Tanner adds regarding Torquay, that "the climate has a soothing influence upon the organs of respiration; but the effect upon the nervous, digestive, and muscular systems varies according to the situation which the invalid adopts for his residence. Dr. Radclyffe Hall recommends a feverish, excitable, consumptive patient to lodge in a sheltered part close to the sea, provided sea-air does not disagree. When the feverishness is less marked, and there is danger from a sinking of the powers of life, a situation

part way up the hills suits better; or the beautiful district of Meadfoot, protected from the east and north-east by an extensive range of cliff, may be selected if close proximity to the sea be desirable. After a residence at the sea-level for a time, removal to the houses in the southern faces of the hills often proves useful." The bathing is not over easy here. Hotels: Great Western, Imperial, Torbay, Family, Gibbon's, Osborne, Victoria and Albert, Royal, Queen's, New Joint-Stock, London. Return fares, 62s. 9d., 45s. 1d.

**TOTLAND BAY**, Isle of Wight (which see), is situated about 2 miles from Alum Bay and the Needles. The air here is mild and tonic. Good bathing exists. Hotel: The Totland Bay.

**TUNBRIDGE WELLS**, Kent, is 46 miles from London. Population about 24,500. The scenery around this place is very fine, and the soil quickly absorbs rain. The town is famed for its mineral waters, which are of the simple iron or chalybeate type. Analysis shows that these waters contain about three grains of iron per gallon; the water rising at about the rate of a gallon or so per minute into two stone basins. The climate may be described as bracing and tonic; and residence here is well adapted (along with the use of the water) for cases of debility and bloodlessness (or *anæmia*), especially in females. The overworked and dyspeptic also regain vigour here. Hotels: The Spa, Royal Kentish, Howrah House, Royal Sussex, the Swan, Royal Mount Ephraim, the Camden at Pembury. A hydro-pathic establishment exists at Down Grove. Return fares: 13s. 6d., 9s. 6d., 5s. 5d.; Saturday to Monday, 12s., 8s. 6d., 5s. 6d.

**TYNEMOUTH**, Northumberland, is 278 miles from London. Population, about 44,000. This town is situated at the mouth of the Tyne, on the German Ocean. There is a capital beach for bathing. The air here is of a highly bracing type, and this resort has become highly popular in the northern counties. In cases of simple over-work, requiring a bracing and tonic atmosphere, for children recovering from illness, and for scrofula and joint-affections, Tynemouth is well suited. Hotels: Station, Bath, Salutation, Star and Garter. Return fares, 82s., 46s. 3d.

**ULLSWATER**, Westmoreland, a lake about nine miles in length; the town having a population of about 1,000. The air here is tonic and sedative. Hotels: Ullswater Hotel; Patterdale, Queen's Family.

Regarding the "Lake District" at large, the excessive rainfall is the only drawback to the enjoyment of splendid scenery, and the, as a rule, bracing air. September and October are often dry and agreeable months; August is apt to be wet. Ambleside, Bowness, Grasmere, Keswick, and Windermere are the principal resorts, whence the less known parts of the lake district are readily reached.

A PROFESSOR was examining a medical student in physiology once upon a time, and the young man, being nervous, failed utterly to answer the first question put to him, which was a very simple one. "Bring this gentleman a bundle of hay for his breakfast," remarked the disgusted professor to one of the attendants. "Bring two—the professor and I will breakfast together," added the student, who had suddenly regained and asserted his self-possession.

**HAMPSTEAD**.—High and healthy position, near the Heath. STANFIELD HOUSE SCHOOL for sons of gentlemen. Home comforts; and the health of pupils carefully studied. Individual teaching. Principal: Mr. W. R. Marshall (several years' experience), assisted by eminent masters. Prospectus on application.—[ADVT.]



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

**BATHING INFANTS IN THE SEA.**—At the present season, a mistaken and mischievous practice is much in vogue. Daily torture is inflicted on thousands of tender and helpless infants by forcibly plunging their bodies, in spite of shrieks and struggles, into the open sea. This cruel and time-honoured process may now be seen in full operation at any seaside resort. Affectionate mothers hand over their infants to stalwart and impassive bathing-women, to be plunged head foremost into the sea, under the absurd notion that the procedure vastly benefits the little ones. Day after day, with relentless regularity, very young children and babies are borne out amidst the waves and subjected to their dreaded ducking, in the firm belief that their trembling bodies, often writhing to the verge of convulsions, are thus made healthy and hardy. All experience on the subject, and the teachings of all medical authorities on sea-bathing, agree in support of the two following rules—namely, that a child under two years of age ought never, under any circumstances, to be bathed in the open sea, and that no one, child or adult, can enter the sea without danger while under the influence of emotional excitement. Under two years of age, a child's body is too weak to gain any benefit from the shock of immersion in the open sea. Its nervous and circulating forces are too feeble for the development of that vigorous reaction, without which sea-bathing is either useless or hurtful. In the absence of strength for such reaction a sea-bath tends to chill an infant's body, and predispose to internal congestion. At any age the shock of immersion in the sea brings risk of danger, and even of death, when the emotions are powerfully excited, and especially when the mind and body are dominated by that most depressing of human emotions—fear. Infants are not always bathed in the sea merely with the intention of making them strong. There is an old seaside tradition that babies diligently bathed become fearless in the water when they grow up. This notion is also false. Than that infants gain courage by being plunged in the sea, it is more probable that many a nervous child has acquired a dread of bathing which no after-experience could remove, because it was compelled in fear and trembling to plunge under water. If a child be sufficiently robust to develop a good reaction, if it be over two years of age, and, above all, if it be not afraid, it may be bathed in the sea with advantage. If any of these conditions be wanting, sea-bathing for children is likely to be positively injurious.—*British Medical Journal.*

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**BLACK INK FOR RUBBER STAMPS.**—Aniline black,  $\frac{1}{2}$  oz.; pure alcohol and concentrated glycerine, of each 15 oz. Dissolve the aniline black in the alcohol, and add the glycerine.—*Neueste Erf. and Erf.*

WHILE a doctor was visiting a sick woman in Rowlands-ville, Pa., two children poured a pint of molasses into his silk hat, which he didn't notice till he put the tile on his head. Language cannot describe his feelings, but it is said that he will petition the next legislature to pass a Bill making it a criminal offence for a child to be born under twelve years of age.

## Our Bookshelf

"Reading maketh a full man."—*Bacon.*

### AUTHORITY AND STIMULANTS.

*Study and Stimulants; or, the Use of Intoxicants and Narcotics in Relation to Intellectual Life*, as Illustrated by Personal Communications on the Subject from Men of Letters and of Science. Edited by A. ARTHUR READE. (Manchester: Abel Heywood & Son.) 1883.

NATURALLY, the question of the use or advantage of alcohol and tobacco in intellectual life, and in the daily existence of professional men, possesses a high interest for all educated persons. It is, moreover, a topic or aspect of the temperance movement which is capable of being argued apart from all considerations of a merely sentimental kind. As a scientific inquiry, the question, "Does alcohol assist or retard brain-work?" becomes eminently interesting; and of a similar query applied to tobacco the same remark holds good. Mr. Reade undoubtedly deserves great praise for the manner in which he has tackled the difficulty of obtaining evidence regarding these two points. He has written to over a hundred literary and scientific men—as a matter of fact, 124 "testimonies," mostly of a personal kind, appear in the book—some widely known, others more or less obscure, and has thus obtained, at first hand, the evidence of educated persons regarding their own feelings respecting alcohol, and their own experiences regarding tobacco. It is needless to say that Mr. Reade's compilation is thus of a highly interesting kind. To know how this celebrity works, how that author lives, or how a third regards his cigar or his wine, cannot but prove interesting, apart from questions of a scientific nature. Mr. Reade's book is, therefore, an attractive volume in this latter sense.

That wise person Hosea Bigelow is made to remark, that we should never prophesy unless we know; and the observation is singularly apt in respect of most of the affairs of life. Following up the remark in question, we might say that, before Mr. Reade compiled his book, one might have easily prophesied that the result would be as he has found it. There is infinite diversity in the testimonies of writers regarding their use of alcohol and tobacco. Such a result is entirely in accordance with scientific expectation and ordinary common sense. It is beyond all question that each person is literally a law unto himself (or herself) in the matter, not only of alcohol or tobacco, but in that of ordinary foods and drinks likewise. Physiological peculiarities, or "idiosyncrasies" as they are often called, really make up the totality of our personal and individual selves. The recognition of this fact, which too often escapes the ardent temperance reformer, must serve to reconcile a vast number of highly puzzling incidents which one meets with in the social history of intoxicants and narcotics. "One man's meat, another man's poison," is a familiar way of stating the truth that A may be capable of withstanding doses of drugs under which B and C would collapse. Underlying the whole question, however, is the broad inquiry, "Are alcohol and tobacco injurious or the reverse to mankind?" It is to the solution of this question that Mr. Reade addresses his volume; but, on the whole, we find ourselves inclined to declare that he has left the question pretty much where he found it, and where physiology has for years past been accustomed to allow it to repose.

For example, while the Rev. Dr. Abbot, of New York, is of opinion that alcohol, as a stimulant, is "at once a



deadly poison and a valuable medicine," and while Mr. Allibone, also of New York, says he has "no doubt that the use of alcohol, as a rule, is very injurious to all persons—authors included," M. Paul Bert thinks that the use of alcohol and tobacco is a question of degree, and takes wine to all his meals, "because he likes it," and Mr. Edison actually thinks that "chewing tobacco acts as a good stimulant upon anyone engaged in laborious brain-work"—in most cases it would certainly act as a "good stimulant" to the stomach in forcibly emptying that organ. Mr. Gladstone "drinks one glass or two of claret at luncheon, the same at dinner, with the addition of a glass of light port," and it is declared (by his son, who writes for Mr. Gladstone) that "the use of wine to this extent is especially necessary to him at the time of greatest intellectual exertion." Such a declaration somewhat vitiates Mr. Reade's conclusion that "not one" of his correspondents "resorts to alcohol for stimulus to thinking"; seeing that, viewed as a physical support in Mr. Gladstone's case, the use of alcohol in such moderate amount, no doubt, has a certain mental action as well. While the Rev. Henry Lansdell does not find "the least necessity for stimulants, in the form either of tobacco or alcohol," the Rev. Stanley Leathes, D.D., says tobacco is an irritant to him, but that he is "quite sensible of the virtue of an occasional glass of good wine," and is "certain" he "can work better with than without it." While Professor Haeckel finds strong coffee "very useful in mental work," and while that distinguished *savant* has never smoked, and takes very little alcohol because he finds it "of no value as a stimulant," Mr. James Payn is a constant smoker, consumes tobacco (latakia) during the whole time (three hours per diem) he is at work, finds it a stimulant to the imagination, has worked for thirty years, and drinks "very little alcohol—only light claret, and occasionally dry champagne." While Mr. Charles Reade "spurns" tobacco and says nothing about alcohol, Mr. Wilkie Collins has the following characteristic reply:—"When I am ill (I am suffering from gout at this very moment) tobacco is the best friend that my irritable nerves possess. When I am well, but exhausted for the time by a hard day's work, tobacco nerves and composes me. There is my evidence in two words. When a man allows himself to become a glutton in the matter of smoking tobacco, he suffers for it; and, if he becomes a glutton in the matter of eating meat, he just as certainly suffers in another way. When I read learned attacks on the practice of smoking, I feel indebted to the writer—he adds largely to the relish of my cigar." The Rev. Mr. Dallinger says that neither tobacco nor alcohol is "at all necessary" to vigour "of either body or mind;" and Dr. Lauder Brunton says: "from observation of others" it appears to him that, "when not used to excess," tobacco "is serviceable both as a stimulant during work, and as a sedative after work is over."

These are a few examples of the diversity of opinion which one meets with in Mr. Reade's book—a diversity which would, indeed, be startling did we forget the physiological principle of the variation in individual constitutions before alluded to. The candid reader, who hears of one man despising alcohol and of another abominating tobacco, and who is met by the dictum of a third that alcohol is an aid to a busy life, and of a fourth that tobacco is a stimulant and sedative, might well pause and inquire—but for the physiological thought just mentioned—"Who shall decide when not only doctors, but authors, disagree?" Is it possible to arrive at any consensus of opinion regarding the benefit, or the reverse, of using alcohol and tobacco? We put aside all questions of excess. These are foreign to the argument. Everybody admits that excess in anything

—from tobacco to tricycling—is injurious; and the question—"What is excess?" is, as we have seen, a matter of and for personal adjustment and settlement.

Mr. Reade sums up his ideas on the matter in some seven conclusions. His first is that "alcohol and tobacco are of no value to a *healthy* student." He would have been on safer ground had he put it more exactly by saying they are not necessary to ensure health, any more than are coffee or tea. There is testimony in his own pages, *e.g.*, Dr. Carpenter, who finds a couple of glasses of light claret an aid to digestion; Mr. Gladstone's case, already quoted; the Rev. Dr. Leathes's statement, and Sir Thomas Erskine May—showing that, in certain cases in health, alcohol in moderation, and used as an adjunct to food, favours physical well-being. Because alcohol, as we believe, is not a necessity for the healthy body, it would be, and is, absurd to allege that it may not be required occasionally in the healthy state. To define "health" as an individual and personal matter is, of course, impossible; but this much is tolerably certain, that there are individuals who attain and *retain* their healthy state more readily through the use of small quantities of alcohol than without stimulants. The recognition of this fact does not vitiate the other fact, namely, that alcohol (and, of course, still *more* tobacco) is not a "necessity" for the healthy body.

Mr. Reade's second conclusion is "that the most vigorous thinkers and hardest workers abstain from both stimulants." Here we beg again to differ from him. He would have been much nearer the mark had he said *some* vigorous thinkers and *some* of the hardest workers touch neither one nor the other. The third conclusion is, that "those who have tried both moderation and total abstinence find the latter the more healthful practice." We are quite inclined to agree with this remark; but it has its exceptions. As a general rule, it is true; applied specially, or to include everybody, it is not correct. Fourthly, it is said "that almost every brain-worker would be the better for abstinence." The qualification "almost" appears to meet the difficulty we have raised to Mr. Reade's previous conclusions. By "abstinence," it is presumed "total abstinence" is meant from both tobacco and alcohol. In the face of our previous argument, and of the word "almost," it would seem as though it must be admitted that many brain-workers live healthily and work well on both stimulants, whilst many do equally well as total abstainers. The fifth remark, "that the most abstruse calculations may be made, and the most laborious mental work performed, without artificial stimulus," is quite correct. This conclusion no one denies, so far as we know. But to the sixth conclusion, "that all work done under the influence of *alcohol* is unhealthy work"—why not have added "tobacco" as well—we must take grave exception. If by "under the influence of *alcohol*" is meant that the worker has swallowed an enormous and personally over-stimulating dose, we can heartily subscribe to Mr. Reade's conclusion. But as Mr. Reade cannot deny that the man who, like Mr. Gladstone, finds a small quantity of wine "especially necessary to him at the time of greatest intellectual exertion," is *physiologically* "under the influence" of alcohol, as he is "under the influence" of coffee, or meat, or any other form of food, it seems absurd, to say the least, to style such work "unhealthy." What is the criterion, after all is said and done, of "healthy" work? Mr. Reade's final conclusion is that, "the only pure brain stimulants are *external* ones (the italics are the author's own)—fresh air, cold water, walking, riding, and other out-door exercises." This is all true in a measure; but for the words "only



pure" we should have substituted the term "safest," as being more physiological, and as expressing the correct appreciation of the place of the exercises mentioned. But no one, so far as we know, has ever attempted to show, far less succeeded in showing, that alcohol and tobacco should replace exercise. Mr. Reade's final conclusion almost suggests that some such notion is refuted by his remark.

To conclude, we must commend this highly interesting volume to the careful attention of our readers. It will assist them in seeing that, after all, this civilisation and this civilised life of ours are together highly complex conditions, which are not to be regulated for either individuals, or groups, by exact mathematical conditions or calculations. Personal life at large—habits, work, exercise, health, and other conditions—in reality constitute a complicated tissue of relations which fall to be considered fully and completely in all arguments concerning foods and drinks. For ourselves, and adopting the scientific standpoint, we may say that we believe alcohol and tobacco are, in all cases, not merely unnecessary for, but injurious to, the young; that they are not necessary for the healthy adult; and lastly that under certain circumstances, which are a matter of wise personal consideration, alcohol in moderate quantities may prove serviceable as an adjunct to food and nutrition. Of the utility of tobacco we are more sceptical; but we cannot overlook the testimony of many distinguished men, that they find it an aid or stimulus (like the strong coffee or tea of the non-smoker) to thought, or as a mild sedative. They are safest and happiest, perhaps, who require neither, and the temperance movement has had the great merit of showing that for many things which were regarded as necessities were in reality only luxuries, and in some cases even luxuries of injurious kind.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### LETTERS TO THE EDITOR.

#### SPELLING AND HEALTH.

SIR,—Having long been keenly alive to the absurdities and evils of our present mode of spelling, I was much interested in reading Mr. Edwin Perry's letter on this subject in *HEALTH* for Aug. 17. At a time when the health of both teacher and pupil is so seriously tried by the attempt to teach in our schools all manner of knowledge, both new and old, to all indiscriminately, it is certainly to be wished in the interest of the health of a large part of the community that all arbitrary difficulties in the way of education should be removed out of the way. How serious a difficulty in the way of learning to read our present mode of spelling creates may be legitimately inferred from the following striking paragraph from a summary of an Education Report for the year 1875-76, presented to Parliament by the Duke of Richmond and Lord Sandon:—

"In England and Wales alone, we have in round numbers five million children of the labouring population, between the ages of three and thirteen, who may be expected to attend elementary schools. Of these, one-tenth, or about half-a-million, necessarily pass beyond the limit of school age every year. How many of these are able to mount the first round of the ladder fixed by Mr. Forster—that is, read with understanding? Why, from the tables given in this Report, it appears that only about 100,000 of the children in any year ever get beyond the reading of monosyllables, or an easy story-book, or about one in five of the children growing up into manhood year by year. Only about 75,000, or about one in six, satisfy the inspector on any subject beyond the three R's, and only 20,000, or one in twenty-five, are able to read a short paragraph from the newspaper with a fair degree of accuracy and intelligence."

With such results of our present system, no wonder that Prof.

Max Müller should have exclaimed: "English spelling is a national misfortune, and in the keen international race between all the countries of Europe, it handicaps the English child to a degree that seems incredible till we look at statistics." (*Contemporary Review*, Nov. 1879.)—I am, Sir, your obedient servant, GEO. G. CHISHOLM.

### QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending *HEALTH* to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.

We must also request correspondents who write enclosing stamps for copies of *HEALTH*, to address their inquiries to the Publisher, and not to the Editor.]

[Correspondents will please note that Queries addressed on Post-cards are consigned to our waste-paper basket. If information is worth having, it is at least worth a letter.]

#### GENERAL.

MARY L.—There is, so far as we know, no legal qualification under which midwives may practise midwifery. In the eyes of the law, we believe, all midwives are "unqualified"; nor can there legally be drawn any distinction between a "certificated" person who has passed certain examinations and the ordinary midwife. No midwife can, therefore, legally "practise" the art of obstetrics. Her position is that simply of a trained nurse, and the law does not interfere with the midwife any more than it interferes with the nurse.

C. P.—See No. 18, *HEALTH*.

ANDERSON, J.—See article on "Plants in Bedrooms" in present issue.

A. G. P.—Our "Hydrophobia" articles will afford the full information you demand.

AMY.—No; a dangerous practice, injuring the sight.

DONALD K.—Simply a highly powerful form of oxygen.

NETTIE.—About twenty; but the age varies.

REMO.—It is a peculiarity of some unfortunate natures that they appear to know other people's business much better than their own. The person whose remarks you quote may be an authority (which is doubtful) on things the opposite of sublunary, but it would be well if some candid friend would advise him to confine his attention to his own department, in which he does not appear to be over-successful. His remarks are beneath our personal notice. If we did notice him, it would only be inflicting the additional cruelty of investing him with an importance he can never possess. You remember the fable of the frog whose attempts to swell himself out met with such a disastrous fate. Our cantankerous critic resembles the inflated amphibian.

C. ALBERT.—No; Mr. R. A. Proctor is the editor of *Knowledge*. He has no connection whatever with *HEALTH*. If the name of this journal has been anywhere mentioned by Mr. Proctor, and if you have been led to suppose that he had any interest in *HEALTH*, we can only suppose that you must have mistaken Mr. Proctor's words and meaning; or that Mr. Proctor's words, probably unintentionally, have conveyed an erroneous meaning to your mind. We are alone responsible for our editorial policy and for the entire conduct of *HEALTH*, which, we need hardly add, shall always be conducted impartially and independently of any external influences or opinions.

WAVERLEY.—As stated before, we approve highly of the system from personal knowledge of its details.

A. A. TWEEDALE.—The belt you send us can in no sense of the word be called electric. It is purely a magnetic belt, and belongs to the class which are fully dealt with in Mr. Carpenter's second article, *vide HEALTH* for Aug. 24. Under no circumstances can any electric currents be produced in the body by it. The pieces of magnetised steel are fairly well magnetised, but too weak, and placed in the wrong direction with regard to the body to produce any electric currents therein.

R. H. WILLIAMS.—The Medical Directory is in the possession of most medical men. Some druggists keep it also.

W. STAINING.—Write to the Secretary of the Department of Science and Art, South Kensington, S.W. Chapman & Hall, we believe, publish the full syllabuses and regulations for the department.



## SANITARY.

**PURE WATER.**—The scheme appears absurd on the force of the chemical evidence alone. If your public are not alive to the danger of drinking cemetery-water, agitate in the local press, who should be alive to the enormity of the procedure.

**BAB.**—A kind of valve for the outlet of impure air. Messrs. Boyle will give you the exact information.

**A. RITCHIE.**—Carbonic acid ( $\text{CO}_2$ ) and carbonic dioxide are one and the same thing.

**ALEXANDER.**—Evidently not: there is no such power.

**CECIL B. O.**—Utterly illegal. Resist such imposition.

**ELLER.**—Have your house inspected by any of the Sanitary Association's inspectors. Apply to your local association. The smell of which you complain may probably arise from the wood—more likely from drains. A house of the age you mention should not exhibit such an odour.

**F. E. B.**—1. See Parts I., II., and III. of *HEALTH*, in which, in the "Family Circle," "Disinfectants" were fully treated. Glad to advise you further if necessary. 2. The filters you name, if genuine, are highly commended.

**DIAMOND.**—Such preliminary notice as your friend requires can only be had by advertising in such columns as those of *HEALTH*, the *Builder*, *Sanitary Record*, &c. Your friend should submit his apparatus to the editors of these periodicals. We should advise your friend to be himself on the spot, and to advertise. Preliminary notices of other kinds are never successful in bringing a new invention before the public. Send him our opinion.

## MEDICAL.

**TOBACCO-PIPE and J. CHRISTIE** are respectfully informed that their queries, being sent us on post-cards, cannot be attended to. If they are repeated in letter-form, they will have our attention.

**NIL DESPERANDUM.**—Act up to your motto and see advice to "A. L.," in No. 17 of *HEALTH*. You will, by attention to this advice, get quite well. Keep clear of quacks.

**J. F. NORTON.**—Your want of success was probably due to your not taking the male-fern properly. Begin by putting yourself on a fluid dietary (beef-tea, &c.), then, after a day or so, take a full dose of castor oil at night. In the morning after take the male fern as per appended prescription. In six or eight hours thereafter take another dose of oil, and watch the result. Read our criticism of Dr. Cobbold's book (*HEALTH*, No. 16, page 224), and you will see that you must expel the head of the tape-worm to effect a cure. In your case, the head has been left. After a cure, avoid underdone meat of any kind, and see that the water you drink is pure, and that all vegetables are washed before eating. The prescription for the male fern is:—Extract of male fern, 30 minims; powdered gum arabic, 1 drachm; peppermint water, 1 ounce. This mixture to be taken for a dose.

**SENECA.**—We should advise a course of gymnastics and bar exercises under a teacher. But, at the same time, we should caution you that such exercises mean increased bodily work, and you will require to be careful regarding your dietary (which should be nutritious) when engaging in the exercise.

**DURHAM.**—Have you tried hot salt baths occasionally? If not, do so—guarding against cold thereafter. If the pain continues, rub warm oil or vaseline into the pained parts. Clothe warmly. Write again if not improved.

**X. Y. Z.**—You do not give the character of the "pimples," which is a rather important matter. But, for the present, we should recommend you to try, firstly, inunction with a little pure vaseline at night for a time; you may also try tar-soap (Wright's) for washing with warm rain-water; and, internally, take a teaspoonful of "Fellow's Syrup of the Hypophosphites" thrice a day in a wine-glass of water. The chill probably brought on your affection. If not improved within a month, write again, please, giving full details of health, food, &c.

**W. C.**—Yarmouth may prove too bracing for you. If so, shift your quarters south, say Ramsgate or Folkestone. See our advice in present number to "Durham." We think the turpentine should only be used if great pain exists. The hot salt baths ought to do good. Write again, if your trip does you no good.

**TRAVELLER.**—We think you have been needlessly alarmed by your medical and certainly by your "quack" attendants. Why run the gamut from allopathy to homœopathy? Take the tonic recommended to "X. Y. Z." in present number of *HEALTH*. You might also try a little cod oil emulsion for a time. Rothesay, or some equally sheltered place, would suit you. The tonic mentioned will aid the chest-trouble, which we think slight. As for the other affection, you should leave that to time, and take care of your general health.

**IGNORAMUS.**—We have never heard of the practitioner you name.

Respectable and trustworthy medical men never advertise. You do not give full details in your note. See (and follow) advice given to "Traveller" above in respect of medicine.

**A. B. C.**—You have certainly had a round of quacks and medical men. Try a bottle or two of "Æsculap" mineral water as a mild aperient, and attend very carefully to the state of your digestive system. Write again if unimproved. Your troubles seem more mental than real. From your letter we judge that if you get up your strength and general health your other troubles will cease.

**OTTO RANIDORF.**—Many thanks for your letter and sample. It is a pity the proprietor of the preparation you name does not advertise it widely. We had not heard of it prior to the arrival of your note.

**W. MOORE.**—Thanks for your note. The individual you name is not a medical practitioner. He is, we believe, a "surgical electrician," whatever that may mean. You acted most wisely. The mention of the fee of £20 at once showed the "cloven hoof."

**T. THORNTON.**—Yours is a case in which the excessive perspiration depends on some constitutional cause. What is the state of your general health? You might try the following:—Dilute sulphuric acid, 1 drachm; syrup of orangepeel, 6 drachms; water, 7½ ounces; a desert spoonful thrice daily. The head should be washed with cold water, and well dried, in the mornings. If headache results this latter direction may be omitted. Write again if unimproved.

**J. R. GORDON.**—Your letter received. It is a pity no analysis was made of the bottle.

**TOM.**—Keep your mind easy; the symptom you name is a perfectly common one in healthy and robust persons. Only quacks teach people differently. When you call it "a serious weakness," you give it a wrong name. Don't be anxious at all; take plenty of open-air exercise; avoid stimulants; occupy your mind with healthy reading; and take our (unfortunately oft-required) advice to steer clear of quacks. You require no medicine.

**J. L. S.**—It is certainly a great pity that teachers should not notice ringworm at school, and thus save such cases as that you write about. The cure is, firstly, strict attention to the general health; give cod-liver oil—have three drachms of the syrup of iodide of iron added to six ounces of oil, and give a tablespoonful thrice a day. Secondly, poultice the part to remove all hard concretions; clip away all the hair round the patches; then, after daily washing with soap and water, apply lint soaked in a lotion of equal parts of glycerine and sulphurous (not sulphuric) acid, covering the lint with oiled silk. By cutting away the hairs round the diseased patches, and by pulling out those in the patches, you will prevent the fungus from spreading.

**EIN NARR (Queenborough).**—See our remarks to "Tom" in present number. Don't be morbid or over-anxious. The bicycle-riding will do no harm; bathe or sponge with cold water every morning; sleep on a hard mattress; and don't take fluids just before retiring to rest. You suffer from no disease, and by care and attention to your general health you will soon be well.

**NEMO.**—See advice to "Tom" and "Ein Narr" above. Please send us any of the pamphlets with which you were favoured. Quacks doubtless; but pay no heed to them as you value your health (and purse). We do not see why you should fear to take the step you propose. Try cold sponging in the morning, be moderate in all things, and see to your general health.

**ADELA.**—1. No remedy for ordinary blushing, save trying a tonic, and seeing to your general health. With many people it is constitutional and natural. 2. By a tonic such as that recommended to "X. Y. Z.," in present number of *HEALTH*. As the "nerves" are part of the frame, attention to the general health is necessary in all such conditions.

**CUI BONO.**—In your case, we should be inclined to advise you to take a thorough change to Rhyl or some other bracing place (e.g., Whitby, Scarborough, &c.). You appear to be in want of general bracing up, and a change of air and scene will best accomplish this. For the constipation, we should recommend "Æsculap" mineral water as an aperient suitable for your case. Cocoa may suit you better than tea. Try Tulloch's cocoa.

**RIO GRANDE.**—Certainly; tobacco is well known in medicine to act in the manner you mention. We should prefer to try bromide of potass, 15 grains, in water at night; but the cure of your ailment will proceed as much from your mind as your body.

**H. F. P. L.**—1. We have not analysed the preparation you name. If it is, as its name indicates, a "Sulphur" preparation, it should be safe. Add iodide of potass solution to it, and see if a yellow precipitate is thrown down. If so, it contains lead. 2. Eight hours' sleep in ordinary circumstances is a fair amount of rest. Is your bedroom well ventilated? See to this. Don't eat within two hours of retiring, and bathe the head with cold water on going to bed. Write if not improved.

**No. 3.**—Avoidance of all stimulants; doses of "Victoria Ofner Bitter Water" as a purgative; strict cleanliness; support by



bandage; frequent injections of Condyl's Fluid (1 part to 5 or 6 of water); and, above all, rest.

T. S.—We never recommend medical men by name in HEALTH. For your affection—1. Try cod-liver oil with iodide of iron combined, such as any druggist will compound for you; 2. Inject Condyl's Fluid (1 part to 10 of water) twice or thrice a day; 3. Visit the seaside. Cases like yours often get well in a bracing air like Margate, Ramsgate, Whitstable, &c.

FONTAINE.—There are various modes of "stopping" teeth temporarily, by means of indiarubber and other preparations to be purchased from druggists. But we do not recommend these preparations. If your tooth requires stopping, we should advise you to have it done once for all by a competent dentist.

DELTA.—We never recommend medical men by name in HEALTH. Send us your name and address.

NERO.—Bathe the face with hot rain-water at night; use a little Vaseline, pure, to the part affected; avoid chills; and if, as may be the case, the eruption proceeds from lowness of the system, try the tonic recommended to "X. Y. Z.," in the present number of HEALTH. Glad to assist you further, if necessary.

G. LOWMAN.—1. Depends entirely on the cause of the giddiness. Write particulars of your habits, health, &c. 2. Care in food-taking. Rest after eating. Avoid vegetables for a time, and try a mild aperient occasionally.

ADA.—1. Try the effect of complete alteration in your habits and hours of sleep. A little lateness in retiring may do good, and late rising, of course, as well. Such cases as yours may find benefit from a tonic containing iron. Try *Fer Bravais*, a few drops thrice daily, as directed. If not improved write again. 2. For a sudden chill we have found nothing so effectual as a cup of very hot tea, taken at once. This will usually counteract the chill by producing copious skin-action; thereafter, of course, guard against cold. A warm bath, or warmth applied to the body, with a hot drink taken on going to bed, would also do good.

MALADE.—Why try to hide what is a perfectly natural, and, we will add, healthy result? You must be singularly "out of joint" to make that feeling the excuse for your ailment. Our advice to you is to get rid of all morbid feelings. (Avoid quacks.) You are in good health; discard the practice you mention if you would enjoy health. Sleep on a hard mattress; don't take fluids just before going to bed; take moderate open-air exercise; and sponge each morning with cold water.

FLORA.—Moles cannot be removed except by a surgeon, and then only at the risk of leaving a scar. For the "acne," use soft soap at night, rubbing it into the face with a piece of flannel. Thereafter, use simply *hot, soft* water. After using the soft soap (which may be dissolved in spirit) use a lotion composed of half an ounce each of precipitated sulphur and oxide of zinc, added to an ounce of camphor water. Another lotion is Kummerfeld's, which consists of two drachms precipitated sulphur, ten grains camphor, powdered gum acacia, one scruple; lime-water and rose-water, of each two ounces. This is to be applied at bedtime, and next morning the sulphur is to be rubbed off without wetting the skin. See also to the general health, and, above all, avoid chills.

AMY MILLS.—1. Try the effects of a vegetable dietary; drink Feltoe's "Spécialité Lime Juice"; 2. Locally, try the effect of a little oxide of zinc ointment.

ST. CLAIRE.—So far as we can see, your friend's ailments are of mental kind, and the physical weakness has a mental origin. Our advice is to try, if at all possible, the effect of a change. The neck and cheek troubles indicate that cod-liver oil with iodide of iron added is required. It would perhaps give the patient confidence and happiness were she to consult a good physician in Edinburgh. The step you mention should not be taken until perfect health has been attained, and this latter we think perfectly feasible under watchful care as above directed.

A. H. W.—See that your boots or shoes are easy and do not compress your ankles. Wear woollen socks, and wash the feet with vinegar and water (one to three); and try a lotion consisting of one drachm of tannic acid to six ounces of rectified spirit. Belladonna liniment may also be tried.

M. WILLSON.—We think your best course is, firstly, to discover a resort which will agree with you. Malvern, Bath, or Leamington we think might suit your case. Then a mild and efficient tonic (Fellow's Syrup of the Hypophosphites, a teaspoonful in a wine-glassful of water thrice daily) appears to be required. For a mild aperient, try "Æsculap" water. The cold sponging will do good if you have reaction thereafter. Write again if not improved.

P. K. W.—1. No; if properly made at first, the quality of the milk should not be deteriorated. See that you use a good brand (Anglo-Swiss). 2. Put a drop or two of glycerine into the ears on going to bed, and stop the ears with cotton wool. Don't let water gain access to them.

ANXIOUS ONE.—You have an erroneous idea of hospital eye

surgeons if you think they are "experimentalists." Our advice is, get rid of such a foolish notion. At once visit a good hospital (e.g. Charing Cross), and don't trifle with your eyesight. Actual examination of the eye is required.

AJAX.—Give up your tea and coffee for a time. Make some alterations in your diet; take light foods—fruits, milk puddings, &c., for a time; smoke little or none at all; and take occasional doses of "Æsculap" mineral water. Don't eat or smoke late at night, and rest after meals.

TOOTHsome.—We do not believe much in the efficacy of "pastes" for the teeth. There should be no gritty particles, but as the enamel is as hard as steel, it is difficult to see how it could be scratched. We prefer precipitated and camphorated chalk or magnesia.

AUBREY SMYTHE.—We could not advise emigration and sheep-farming, knowing what you tell of your previous history. Why not try what Malvern or Harrogate would do for you? Take the tonic recommended to "M. Willson" above; you evidently require such. Give up all mental work, as you are doing, for a time, and have a complete rest. Have you tried cold sponging in the morning?

W. G.—The skin affection you name cannot be prevented by any particular diet, although temperance and care in eating and drinking are, of course, in part preventives. Tar ointment, or chrysophanic acid ointment (one drachm of this acid to one ounce of lard), a piece about the size of a pea to be rubbed into each patch of the disease daily, should do good. Avoid chills, and attend to general health. A little cod oil and iron would do you no harm, and you evidently require more exercise. Take arsenic only under medical supervision.

A READER OF HEALTH.—Don't be either morbid or alarmed. Your case is not by any means so serious as you think. 1. Take the tonic recommended to "M. Willson" above. 2. Try cold sponging in the mornings. 3. Live well, but temperately. 4. Take moderate out-door exercise. 5. Have cheerful society; and look forward hopefully to the future.

N. C. HOWARD.—Try the following:—Carbonate of ammonia, one drachm; tincture of squills, three drachms; tincture of camphor compound, half an ounce; infusion of senega to make up a six-ounce mixture. Take a tablespoonful every four hours. Bathe the chest each morning with cold water, and dry with a rough towel. Write again if not bettered.

FORRY.—Have you tried a flannel belt or binder across the loins? Cold sponging with water in which salt has been dissolved may also do good. If these measures do not improve you, seek advice at hospital, especially as your back-troubles may, in part, be connected with the ruptures.

NEMO.—If your condition is improvable at all, we should think it will only be so after treatment by an aurist.

ORION.—Your trouble, despite what you say, is as much of mental as of physical origin. Electricity, in your case, we should not regard as being of much use; but you might try a Pulvermacher's chain to the nape of the neck or spine generally. We should fancy the chronic indigestion is the physical cause of the flushing. Have you tried a course of mildly aperient mineral waters?

E. T. K.—See advice to "Orion" above. The latter part of that advice may apply specially to your case. Try the "Victoria Ofner Bitter Water."

LOUISE.—Yes, hot salt baths would do you good. Clothe warmly, and avoid chills: drink Feltoe's "Spécialité Lime Juice" as a beverage. See that your home is warm and sheltered. On the least indication of ill-health, take the tonic recommended above to "M. Willson," and if the rheumatic pains threaten a return, take a powder composed of powder of guaiacum, half a drachm, and nitrate of potass in powder, one scruple; this powder to be taken on going to bed, and some warm gruel taken thereafter.

DACHRISTI.—1. The growth of the moustache is a widely different matter from that of the hair. Try Sir E. Wilson's formula recommended. 2. We have no personal experience of the "cell salts"; but from what we know of the source from which the information is derived, we should say the system is certainly worthy a trial. 3. Some medical men—but comparatively few in number—believe in the drug you mention. Our opinion is the reverse. 4. We have never heard of such a period of incubation for the disease you name. There are various affections which imitate the disease, but the treatment for all is similar. 5. One attack is usually deemed preventive.

ERREUR.—Don't let any one persuade you that you are really ill, and avoid quacks, who flourish on cases like yours. The occurrence mentioned by you is quite usual in health. Take moderate exercise, and don't be morbid.

GREY.—The oil only assimilates with difficulty. Substitute for it any other pure oil; and heat the mixture or triturate it before use. Has it, as yet, produced any good result?



**SLEEPLESS.**—Don't take any quack medicines. Try bathing the head with cold water before going to bed. Are you certain your general health is in good order? Should the affection continue, we should advise a consultation with a physician, as the cause may arise from some deep-seated source, probably of nervous kind.

**DEIRA.**—The skin affection was probably a form of "psoriasis." There is no preventive beyond care of the general health, avoidance of chill, &c. The other affection is possibly rheumatic gout. Give up all stimulants, clothe warmly, and attend well to condition of bowels. If further, or more seriously troubled, write again.

**ROBERT B.**—You must look well to all your habits. We should recommend you to take small doses of "Æsculap" mineral water for a time; eat fruits and vegetables also, and leave off tea and coffee; rest after food, take moderate exercise; eat nothing before going to bed for at least two hours, and try cold sponging in the mornings. See to the ventilation of your bedroom. If you smoke much, limit this habit.

**J. ROB.**—You have evidently run the gauntlet of the quacks, and have suffered accordingly. Your troubles have all been exaggerated (as usual) by these human leeches. The pamphlet you send us is by a Glasgow nuisance, whom we intend shortly to expose. Our advice to you is to try the tonic recommended to "M. Wilson" in this number of *HEALTH*, to try cold sponging in the morning; to live well, but temperately, and, above all, to cultivate a cheerful disposition and give up all the habits you mention. You have no disease, so persevere with above advice and you will get well.

**SWELLING.**—We should think the swelling must have arisen either from a decayed or inflamed tooth (are your teeth sound?); and this opinion seems to be favoured by the fact that it recurs after cold. An enlarged skin-follicle might cause such a swelling; but this is a comparatively rare condition. In event of pain we should recommend the application of hot fomentations, with

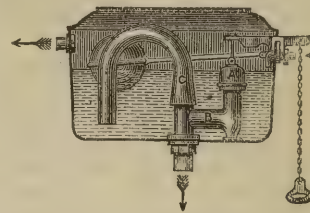
poppy-heads added thereto. Have the teeth examined also. After the active inflammation has subsided, painting with tincture of iodine would do no harm. If proceeding from a tooth, it will most probably arise from an abscess, and the tooth will require extraction.

**A. H. O. V.**—See advice to "J. Rob" above. As you value your health pay no attention to the quack pamphlets which, we regret to see, are distributed broadcast in the London streets.

**A. S.**—See advice to "J. Rob" above. You should not be morbid in any way, as your health will be completely restored by careful attention to your general health. The medicine you mention we should regard as useless in your case. It is a much-vaunted, but, we think, useless medicine.

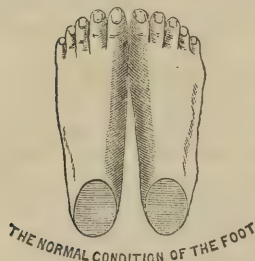
**G. BURTON.**—It may be that you are troubled with worms, in which case use an injection of salt and water, and eat salt with your food. Use a little plain Vaseline to relieve the itching. You should also try the effect of a mild aperient, such as "Æsculap" water, and drink lime-juice diluted with water as a beverage. Write again if not improved.

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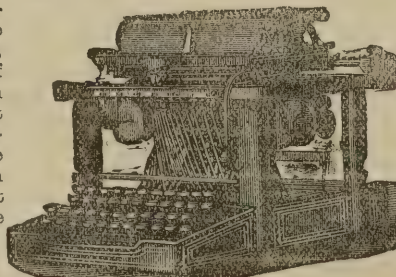
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"BISHOPTHORPE, YORK, October 14th, 1882.

**BEEAMAN & ROBERTS, Sole Agents, 6, King Street, Cheapside, London, E.C.**



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, SEPTEMBER 7, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

SOME time ago we directed attention to the curious coincidences which occasionally appeared in medical practice. Accidents of rare kinds often occur in couples; common accidents succeed one another in half-dozens for a time, and then there is a spell of rest. This circumstance has been brought once again to mind by the number of cases of fatal stings which have of late been reported. In one locality, two fatal cases have been reported in less than a fortnight's time; while from other places accounts reach us of similar incidents. There must have existed some highly-nervous state or some allied condition predisposing to shock, as the result of the comparatively trivial injury. In the absence of all theories regarding any special virulence in the insect-poison, this supposition must explain the fatal result—only, such a consideration does not lessen the curiosity with which a run of fatal cases of wasp and bee stings must be regarded.

+ + +

A SUGGESTION worth noting has been made in the shape of a question: whether or not the "war" of the bees, common at this period of the year, between drones and workers, was proceeding when the fatal results were noticed. In such a case, it might be presumed that an increased virulence was imparted to the sting, through the peculiar circumstances thus occurring in the physiological history of the hives.

+ + +

THE newspapers of this week record a curious accident, for which it would be hard to find a parallel. A lad happened to be passing by some buildings in course of erection at Luton, when a slate dropped from the hands of a workman. The sharp-edged missile, striking the boy, cut his nose completely off his face. The patient thereupon ran home with his nose in his hand, and the medical attendant promptly replaced the severed organ and secured it by surgical means, in the hope of permanently fixing it by the natural process of healing. We believe such a result is by no means unknown in surgery. If the wound heals by what surgeons call "first intention," and without any but the simple and mild inflammatory process which attends such an event, the boy will escape other disfigurement than

a simple scar. If this simple result is not forthcoming, then possibly the resources of surgery will be invoked to hide the abnormality. Surgeons can do wonders nowadays in the way of alleviating disfigurements, and of restoring to deformed or injured parts their natural form.

+ + +

"SELF-HELP" is a splendid feature of ordinary existence; but it shines resplendently in the matter of health, and in the saving of human life in emergencies and accidents. Ambulance-classes, now very generally held throughout the country, accomplish a great and good work in teaching people "what to do until the doctor comes." There lie before us two or three details which prove anew the value of "saving knowledge" of this kind. At the *fête* of the London Working Men's Clubs, held recently at Normanhurst, a woman slipped down a flight of stairs and broke both bones of the right leg. Now, one of the first instincts of a bystander in such a case, is to lift the patient into the erect posture. Such a procedure would be tantamount to converting a simple into a compound fracture, and the bones, through such an unwise procedure, would probably be forced through the skin. But in the case in question, a bystander, with some ambulance knowledge, advised that the patient be allowed to remain where she fell. Then, by aid of an ambulance "hamper" brought from Lady Brassey's stores, the patient was transported downstairs, duly treated, and finally conveyed safely home to London.

+ + +

A REVERSE side to this picture has also been given. A boy broke his thigh by a fall from a railway-station platform. As usual, some one was foolish enough to propose to prop the lad at once on his legs; but a surgeon, happening fortunately to be at hand, prevented the entailment of further injury. No ambulance materials were available, and temporary splints had to be manufactured from advertisement boards. Such a proceeding was certainly better than the rough treatment to which fractured limbs are ordinarily subjected; but the limb had to be re-set after the boy had been conveyed home. With an ambulance "hamper" at hand, as in the first case, the limb might have been set there and then.

+ + +

ANOTHER account has been given of a lad who fell through a glass window and cut himself severely, but who was able at the same time to direct the bandaging of his limb till a surgeon arrived on the scene. He had been a member of an ambulance class. We know of a similar incident which happened in the history of a glazier's apprentice, and in which a policeman who had attended ambulance lectures was able to improvise bandages, which a surgeon declared had saved the boy's life by controlling dangerous bleeding.

+ + +

It has long been a contention of ours that every public servant—policeman, railway guard, porter, commissioner, &c.—should pass a simple examination in the elements of ambulance work. Every mother should know something of such details, for the "old wives' surgery of the family circle, although founded on experience, and although often excellent in its way, is decidedly behindhand in many respects, and does not cover half the ground with which ambulance lectures deal. How few persons know how to revive a half-drowned man, and how few of us know what to do when a person swallows, say, an overdose of laudanum. Add to this, that within the compass of an ordinary kitchen there is to be found a wonderful amount



of material—from flour, oil, salt, and mustard, to white of egg and tea—which can be utilised in the saving of life, and we can all appreciate the high importance of the knowledge which enables us to apply common remedies for the relief of pain or the saving of life itself.

\* \* \*

M. PASTEUR'S latest information from the French Medical Commission in Egypt is to the effect that the accepted theories regarding the origin of cholera are erroneous, and that they will require at least very considerable modification. Needless to say, the report of the French *savants* will be awaited with much interest, here and elsewhere.

\* \* \*

WE have received a large number of communications concerning the utility of our remarks on the quack advertisement nuisance to which we called attention last week. We shall print in our next issue a letter showing that in Sheffield such a nuisance is fully met by the local law as passed during the last Parliamentary session. We have received a note from the Home Secretary's Office to the effect that our representations regarding the quack advertisements will receive attention.

\* \* \*

HERE is an interesting cutting from the *Scotsman* of Saturday, Sept. 1:—"IMPUDENT QUACKS.—Two young men, named Wallace and Clark, were brought up at Lerwick Sheriff Court yesterday, charged with contravening the Medical Act by assuming the title of 'doctors.' It appears that accused had publicly announced that Drs. Wallace and Clark would deliver lectures at Lerwick Market Cross on Wednesday evening, and had there, after lecturing on diseases of the human body, prescribed and furnished medicines therefor. When lecturing Wallace stated that he had been surgeon on board H.M.S. *Lincoln*, and that he had stood close to the University gate in Edinburgh vending his medicines, with the consent of certain Professors, whose names he gave as a guarantee of his professional standing. Sheriff Rampini characterised accused as two of the most impudent quacks and scoundrels he had ever come across, and sentenced Wallace to a fine of £5, with 36s. expenses, to be recovered by poinding, which failing, sixty days' imprisonment. The Sheriff stated that Wallace appeared to be principal, and Clark only a subordinate, and he therefore found the charge against the latter not proven." If such a wholesome application of the law is possible in the far north, and if Sheffield has made it impossible for quacks to distribute their hurtful trash in public, surely London and other cities should not be behind in the repression of a practice dangerous at once to the morals and health of the community.

\* \* \*

FOOTBALL is acquiring an unenviable notoriety in the matter of accidents. A case is reported from Arbroath, in which a player received a blow, causing death from rupture of the liver. Most persons, with such a result before their eyes, will declare that "the game is not worth the candle,"—which latter, in this case, may be represented by the "lamp of life" itself. It is just possible, however, that such a blow was the result of indiscreet playing.

\* \* \*

WE regret that, in consequence of pressure on our space, we have been compelled for this week to omit various of our statutory articles, including "Personal Health" and "The Body and Its Structure."

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### THE DISEASES OF MONKEYS.

By DR. ANDREW WILSON, F.R.S.E., F.L.S., &c.

IN an interesting communication recently made by Mr. J. B. Sutton, of the Middlesex Hospital, to a medical contemporary, the topic of the causes of death amongst the monkey-population which is harboured in the Zoological Gardens of London has been ventilated. The subject is one in which, personally, I feel deeply interested, for the reason that only a year or so ago I disbanded the survivors of a family of monkeys who resided in my house for over two years. The doings of my monkeys will be found duly chronicled in the *Gentleman's Magazine* for March and April, 1883. Mr. Sutton's remarks are of special interest, because they tend, as he himself observes, to contradict a common notion that monkeys usually die in this climate from "tubercle"—or, in plain language, "consumption." The word "tubercle" is, of course, a wide and generalised term, indicating the general nature of a disease which in the lungs would be casually named "consumption," in the digestive system "consumption of the bowels," and in the brain and other organs by other and special names. Mr. Sutton, by carefully noting the results of post-mortem examinations held in the Zoo on monkeys—all the animals which die in the Gardens are examined scientifically by the Prosecutor to the Zoological Society—comes to certain conclusions which are highly interesting from a scientific as well as a popular standpoint.

These conclusions, briefly stated, are, that "tubercle"—inclusive of "consumption"—is a comparatively rare disease in monkeys dying in this country. There is, secondly, "a remarkable absence of tumours," or growths, such as are frequently found in the human subject. And thirdly, there was a total absence of kidney-diseases in the monkeys examined—a fact which seems hardly susceptible of explanation on other grounds than those which relate to the differences in constitution which exist between the monkeys and their human neighbours.

From December 1, 1881, to March 30, 1883, Mr. Sutton examined 93 deceased monkeys, the total number of deaths in that time being 110. Out of the deaths, only three cases could be traced to the fell disease "tubercle," which runs such a rapid and often fatal course in mankind. In the specimens examined, the disease was unmistakable. The lungs of the monkeys exhibited all the ravages seen in the human subjects who suffer from consumption. But the remarkable fact that such a small proportion of the animals examined died of "tubercle," must certainly henceforward form a noteworthy fact in the eyes of all naturalists. The monkeys, however, seemed to suffer largely from that common human ailment "bronchitis." In no fewer than 22 cases, Mr. Sutton tells us, bronchitis caused death amongst the monkeys during the period over which his examination extended; and he adds the remark that even a slight attack of bronchitis appears to prove "rapidly fatal" to monkeys. I can personally confirm the latter remark. One of the members of my own monkey-family, an old, but healthy Macaque (*Macacus cynomolgus*) succumbed to an attack of bronchitis apparently of comparatively trivial nature.

Inflammation of the lungs carried off ten of the inmates of the monkey-house; and it is pointed out that the frequency of this disease, in one form at least, is possibly due



to the prevalence of bronchitis. In one case the bursting of an abscess into the windpipe killed a large baboon, while a squirrel-monkey died from dropsy of the lung. A curious form of ailment killed a young chimpanzee. During teething, possibly, abscess or suppuration of the gum set in, and as the discharge was inhaled into the lung, a form of lung-inflammation, leading to the mortification of that organ, resulted in the chimpanzee's death. No fewer than three baboons and seven monkeys, curiously enough, died from a cause which was least to be expected in these animals, namely, "rickets," or imperfect development and disease of the bones. That this result may have been due to some deficiency in the food is probable enough; but this latter remark hardly applies to the "softening" of the bones which was also seen in some cases. "All the bones," says Mr. Sutton, in speaking of this disease, "suffer, and the ribs become so soft that they yield to atmospheric pressure," giving rise to collapse of the lung and death.

It is highly curious to find that monkeys suffer both from scrofula and from typhoid fever—the latter only two well known in man as the product of deficient drains. Three monkeys died of the former disease. A baboon had its neck-glands affected, and the other two monkeys exhibited well-marked scrofulous disease. In four cases typhoid fever was the cause of death. In the first case—that of a lemur—the fever symptoms were well marked. Seven days later, its companion died, and from a consideration of the circumstances of the case there seems no reason to doubt the correctness of Mr. Sutton's remark, that the second was infected by and from the first. The second lemur, which inhabited the same cage as the first which died, was thus in the position of a human being who is infected with typhoid fever through carelessness in dealing with the excretions of a patient suffering from that disease. Isolation of the healthy monkey, like separation of healthy human beings from fever cases, would have ensured immunity from the disease.

Regarding other causes of death, it is curious to find a lemur dying from a twisting or folding-in of the bowel, such as is occasionally seen in man. In another case, a lemur was found to have the spleen enormously enlarged—Mr. Sutton says "about fifty times above its original bulk." We know that the spleen in man becomes enlarged in ague, and hence the name "ague-cake" which has been applied to this organ. We are further aware that in the cases where enlargement of the spleen is noted, the white globules of the blood are enormously increased in number; because the spleen, having to do with the normal formation of these bodies, produces a greatly augmented number in disease. In the lemur with the enlarged spleen, the blood was found to possess an abnormal number of white globules. It is also notable that the lemur came from Madagascar—an island which may be called "the lemur's home"—and this island is well known to be a territory in which ague is common. Hence the high probability remains that, like the human being, the lemur succumbed to the malarious influences and ague poison which are bred in the swamps of its native land.

Disease of the eyes—cataract—was also observed in many lemurs. Fifty-nine cases of death amongst monkeys out of the 93 examined were satisfactorily accounted for as follows:—Tubercle, 3; bronchitis, 22; inflammation of lungs, 11; abscess on lung, &c., 3; dropsy of lung, 1; enlargement of air-cells of lung, 10; scrofula, 3; bowel affection, 1; spleen disease, 1; typhoid fever, 4; total, 59. Mr. Sutton adds the observation, that in the thirty-four cases in which the cause of death was unexplained, no appearances were met with sufficient to account for the death of the creatures. In such cases the alleged cause of

death was "a fit." The nervous system gives no clue to the death in such a case—a result I can personally attest and confirm. Three of my monkeys died in "fits"—one after an attack of half-paralysis; and in these cases no appearances were met with sufficient to account for death—or, indeed, to indicate in any way the cause of the fatal issue.

The researches to which we have alluded are of high interest, showing us that whilst there exists a close and evident affinity in structure between man and the ape tribes, the two groups, distinct as they are, become also allied through the similarity of the diseases which affect their destinies and which deteriorate or terminate their existence.

## MEDICO-ELECTRICAL APPLIANCES AND THEIR EMPLOYMENT AS AIDS TO HEALTH.

By WM. LANT CARPENTER, B.A., B.Sc., &c.

### FOURTH PAPER.

IN the last article of this series the method of testing medical electric appliances with a galvanometer was described in some detail. We now come to another test, which in some aspects is more trustworthy—at any rate, it indicates that a current of greater strength is passing; a very feeble current is sufficient to affect a sensitive galvanometer, but it requires a current whose energy is considerably greater to overcome the mutual attraction of oxygen and hydrogen, and thus to decompose water. The test in question is based upon the well-known fact that when an electric current of sufficient power (a *single* voltaic cell or "element" is not enough, however large it be; at least two or three must be joined up in "series," i.e., the zinc of one cell to the copper of the next) is passed through water, streams of bubbles of gas rise from the ends of the wires, owing to the separation of the water into its two constituents. There is very good reason to believe that no liquid, except melted metal, conducts electricity without being thus torn asunder; and this electro-chemical decomposition of liquids is used in the arts for electro-typing and electro-plating, the metal (whether copper, nickel, gold, or silver) being thrown down from its solution upon the article to be plated by an electric current. The decomposition of water, or rather of weak sulphuric acid, by the current from a dynamo-machine, is the basis of that process popularly known as the "Storage of force or of electricity," but scientifically described as the Electrical Storage of Energy.

To apply this test to medical electric appliances is a comparatively simple matter. A glass tube about half an inch diameter, open at both ends, is taken, and to one end is fitted a sound cork; through this cork are passed two pieces of platinum wire, which must not touch each other at any point—their ends should project about half an inch into the tube, when the cork is in its place; these two ends should be brought within a few hundredths of an inch distance from each other, and the whole then secured in its place by sealing wax. The ends of the wire outside the tube may be conveniently looped, for the attachment of wires from the source of electricity. The tube should then be partly filled with water, to which it is sometimes advantageous to add a few drops of sulphuric acid. When the platinum wires are connected with any apparatus giving a sufficiently powerful *continuous* current, as for example two or three cells of a battery connected in series, bubbles of gas will be seen to rise from the platinum wires. In testing any medical electric appli-



ance, two experiments should be made, as described in the last article; the first one with the appliance and the testing apparatus simply, the connections being made with short wires, and the second one with the resistance of the body inserted into the circuit. If this apparatus be employed as well as the galvanometer, very useful and reliable information will be obtained as to the efficacy of the current which is being employed. At the National Health Society's Exhibition last June, Miss McMullin exhibited an "Electro-glacial Applicator," which really was an electric hair-brush. A small battery was concealed in the back of the brush, the exciting fluid of which was introduced through a hole therein. The current passed through flexible metallic wires placed among the bristles, and was sufficiently strong to ring an electric bell, decompose water, &c. In its application by this means, however, the current is very much localised, passing only through two or three square inches of the surface of the body, and only as long as the brush is in contact therewith.

In recommending these two tests to our readers, we have only suggested the use of very simple forms of the same kinds of apparatus as are employed by electricians, not only for detecting the presence of, but also for measuring and recording the quantities of, electricity passing a given point in a given time. It may be stated broadly that all the various galvanometers, by whatever specific name they are known, depend upon the mutual action either of currents upon magnets, or of currents upon each other. The water-decomposition test was proposed long ago by Faraday as a measure of the quantity of electric current passing, and Mr. Edison has devised an ingenious electric meter to register the amount of electricity used in lighting a house, or doing mechanical work in it, which depends upon the amount, not of gases evolved, but of copper deposited from a solution of sulphate of copper (blue vitriol) by the current entering the house. This electricity meter answers the same purpose as a gas-meter. Electric currents employed for medical purposes are subject to the same laws as any other electric currents, and hence may be tested and measured in the same way; therefore, notwithstanding whatever may be asserted to the contrary by interested persons, it should be steadily borne in mind by intending purchasers of medico-electric appliances, that unless the apparatus will give a current sufficient to deflect a galvanometer needle *when the body is included in the circuit*, it is simply worthless; and that when a current is desired about whose efficiency there can be no doubt, water should be decomposed under the same conditions. A very simple addition to the little apparatus just described enables the volume of gas produced to be measured, and from this it is not difficult to calculate the amount of electricity that has passed through the body in a given time. Such instruments are sold by Mr. J. L. Pulvermacher, for the purpose of testing his belts and chain batteries.

In this connection, it may not be amiss to point out to our non-professional readers the conditions which must be fulfilled for the production of an electric current by chemical action, especially as some of the appliances offered for sale (and much praised in testimonials) which profess to do this, are constructed with an utter disregard of these conditions. It is necessary that two different metals should be employed, and that a liquid should be present capable of acting upon one at least of the metals (which is usually zinc). Further, these two metals must not touch each other, but the same liquid must touch both of them. This may be done, as in Volta's pile, by a series of discs alternately of two metals, between each pair of which is wet blotting-paper, or by immersing the whole plates in liquid, as in an

ordinary voltaic cell, or by letting the liquid be held by capillary attraction in the links of a chain of the two metals, as in Pulvermacher's chain batteries. When more than one pair of metal plates is employed (and for medico-electric purposes more than one pair is necessary) they should be connected alternately, "in series" as it is termed, the zinc of one to the second metal of the next, and so on. Finally the wires or plates from either the single pair or a series of pairs should be joined together, either directly or through some intervening substance or apparatus, in order to complete the electric circuit, without the completion of which no current electricity can be developed.

Bearing these conditions in mind, the utter inefficacy of such an arrangement as that of a so-called galvanic generator, which is extensively advertised, will be manifest. This instrument is made up in the form of an oval locket of vulcanite, or some similar material, on one side of which is a smaller oval of thin sheet copper; through certain holes punched in this, a similar pattern, stamped in relief upon a thin sheet of zinc, projects. There is nothing to insulate the metals from each other; on the contrary, they actually touch each other at some points. It follows, therefore, when these two plates are moistened, as they may be when the locket is worn as directed, with the metal disc next the skin, that an exceedingly feeble current may be set up, the circuit of which, by the very construction of the apparatus, *is confined to the locket itself*, and none of it can find its way into the body. The energy of the arrangement is spent upon and within itself, just as completely as the energy stored in the mainspring of a watch is spent on the works of the watch. Any cures effected by such a "generator" must unquestionably be due to the patient's attention being fixed upon it with the confident expectation of a cure—*i.e.*, his faith in it—and not to any efficacy in the thing itself.

Allusion has been made to the fact that a liquid must be present, capable of acting on one of the two metals employed (usually zinc). This metal, therefore, gradually wastes away, and, in fact, the amount of electricity generated is strictly proportional to the amount of waste in the metal. A careful consideration of these facts will show the inefficiency from an electrical point of view of certain belts into which discs or buttons of metal are sewn, for which it is claimed that they are excited by the exudations from the skin, and which may even, according to the woodcuts in some advertisements, be worn outside the under-garments! The writer was gravely assured by a would-be salesman of these and other so-called "electric" appliances, that they *never* wore out, or lost their efficacy. The reason, of course, was very simple: neither metal was sufficiently affected by the exudations from the skin, and no electric current was really produced. It is also noteworthy that the same salesman declined to show any galvanometer or other test of the efficiency of his appliances, and although he produced statements from persons who had sufficient faith in these appliances to say that they had been cured by them, no real testimony to their efficacy was forthcoming from electricians or from medical men, except an anonymous letter. From the manner in which the discs are sewn into the belts in question, any feeble current produced by them could only circulate in that small portion of the body that lies between each pair of discs, a distance of two or three inches, so that such currents must be very local in their action, and, owing to the bad conducting power of the skin, excessively small in amount. A careful measurement with one of these belts, even on a well-moistened skin, showed that the amount of current passing between each pair of plates in the belt was,



in electrical language, not more than the *one ten-thousandth of an ampère per second*, a quantity practically infinitesimal, and needing instruments of the greatest delicacy even for its detection.

In the article immediately preceding this the intermittent current produced by the rotation of coils of wire in a magnetic field was described, and in the first article the production of an intermittent current by an induction coil was also briefly alluded to. It may be convenient here shortly to consider the difference in physiological action between the intermittent currents thus produced and the continuous current usually developed by chemical action. In Dr. A. Tripier's "Applications of Electricity to Medicine" (Paris, 1874) occurs the following account of an experiment by that eminent physiologist, M. Claude Bernard. In the exterior circuit of a voltaic pile (or battery) were inserted a voltmeter for the decomposition of water, the posterior limbs of a frog, and a clockwork circuit-interrupter, so arranged that the current passing through the whole could be made either continuous or intermittent at will. With the continuous current, water was decomposed, and the frog's limbs were perfectly still. When, however, this current was interrupted, or, after interruption, was set in action again, the decomposition of water ceased to be apparent, but the frog's limbs were thrown into convulsions. Hence, it appears that the intermittent current causes muscular contraction, while the continuous current has a tendency to relax this contraction. The mere statement of this fact, that the two kinds of current are, to a great extent, opposed in their physiological action, shows how desirable it is to employ electricity for medical purposes only under suitable advice. It would appear to be a natural inference from these experiments, that an intermittent current tends to stop the circulation, by causing the walls of blood-vessels to contract, whereas a constant current might be expected to increase the same circulation by relaxing the walls, and rendering the friction of the blood through the vessels somewhat less. Further into the domain of physiology, however, the present writer is not prepared to enter at present; and, in resuming this subject next week, he hopes to take up the consideration of the chemical modes of producing currents suitable for medical uses.

**HUMAN OBESITY.**—The death has been recorded of the "fattest woman in the world," a member and special curiosity of Nathan's Cleveland Circus in America, who appears to have been smothered in her bed. Miss Conley, though the most enormous of her sex, weighing as she did 497 lb., fell far short of that prodigy of human bulk, the famous Daniel Lambert, who died in 1809, during Stamford Fair, at the age of 40. Lambert weighed no less than 52 st. 11 lb.—that is, 739 lb., or close upon half as much again as the American lady. Daniel Lambert's coffin with his body could not be brought down the stairs of the house in which he died, and the wall at the sides of the window had to be broken away to provide an exit. He was 5 ft. 11 in. in height, measured 9 ft. 4 in. round the body, and 3 ft. 1 in. round the leg. He never drank any beverage but water, and slept less than eight hours per day. The "Claimant" at his stoutest weighed only 26 st., or less than half the weight of Daniel Lambert.

**BARNES'S IMPERMEABLE OPIUM POULTICE**, an effective and perfectly safe application for relief in neuralgia, gout, rheumatism, painful swellings, and lumbago. Prices by post 1s. 3d. and 2s. 5d. 1 and 2, Trevor-terrace, Knightsbridge, S.W.

## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### NURSERY IN RELATION TO HEALTH.

SECOND PAPER.

By T. GOODALL NASMYTH, M.B.

WATER SUPPLY.—VENTILATION.—WARMING.

IN my first paper I entered into a general discussion on the above subject, endeavouring, in the first instance, to impress the readers of HEALTH with the importance of due attention to and knowledge of the conditions necessary for a healthy nursery; and entered somewhat fully into the general architectural features which should be observed in the selection of such an important room in a house. In the present paper I shall enter into discussion of Water Supply, Ventilation, and Warming, in the order I have written them. I need not say that, in the first place, the water ought to be above suspicion as regards quality. In a town there is no danger about this, as water supply is generally very carefully managed, and there is no danger of sewerage contamination; but in the country there often is danger, not so much from a gravitation supply as from a well supply. Every one knows now-a-days that water is a vehicle for the transmission of enteric fever, just as milk is, and frequently water conveys the poison to milk, in the process of adulteration carried on by milk-sellers.

In houses supplied by a gravitation process, water should be led into the nursery, both for cooking and washing purposes, and for another reason. In case of fire breaking out, a supply would be at hand, and might be the means of averting a conflagration. And further, in houses fitted with hot-water arrangements, there is no room where hot water is more desirable than in the nursery, for baths and other uses.

In a luxurious nursery, baths, water-basins, &c., are in a room adjoining the nursery, but in an ordinary well-arranged nursery, fixed-in basins and ordinary tin baths are perfectly sufficient. One word about fixed-in basins. Of course, there is always a pipe leading from these to carry away the used water, and which leads to one of the main-sewerage pipes. In these pipes there is always sewer-gas at a greater or less tension, ready at all times to pass into any opening. Well, the opening of such a pipe is very convenient, and the poisonous gas fills this pipe, and passes along until, fortunately for those who live in the nursery, it meets with a trap—an arrangement of the pipe intended to keep back sewer-gas. But unfortunately, and fatally often, from some cause or other, architect's or plumber's fault, no such provision has been made, and sewer-gas belches forth from the pipe into the basin, and diffuses through the room. This is one of the commonest examples of the manner in which sewer-gases pass into a house. All the other drains may be perfect, but from the want of a trap in a pipe leading from a wash-basin to the main or other drains, disease and death may result.

Many diseases are known to be caused by sewage-gases—typhoid fever, diphtheria, &c.—and though not always do these diseases result, people feel ill, are delicate and pale-looking, suffer from headache and want of appetite if they are breathing sewer-gas, poisoned air.

I have, perhaps, entered fully enough into a discussion of the wash-basin of a nursery; but this is just one of the likeliest places for sewer-gas escape in a house. The trap



ought to be perfect of its kind, and not one which a sudden rush of water will empty, and leave no such thing as a barrier to the escape of sewer-gas. The basin may be large enough to wash infants in, but, generally, a special bath is used, and these nowadays are made to meet the requirements of all in the most workmanlike, not to say artistic, manner. Every infant and child should have a bath once a day at least, certainly not a cold one, but the older the child is, the colder it may be, gradually accustoming the child to a lower temperature of the water, until cold water has no terrors for it. Sponges are generally used for washing children, and as long as they are not used for any other purpose, there is no objection, but we should remember that a sponge is very liable to convey infectious diseases and impurities. Some medical men recommend a piece of fine flannel, instead of a sponge, but the latter is, doubtless, preferable. The question, "Whose soap you use?" is really an important one; and Pears' seems to fill all the conditions necessary for a good soap. Very young infants should have no soap applied near their eyes, as it is liable to produce severe inflammation in them, not to speak of pain from the irritation of soap, as we ourselves know sometimes.

On the subject of warming, only a few words are necessary. The temperature of the nursery should be about 60° Fahr., and uniform. It is a mistake to think that we can harden up children by forcing them to endure cold. They suffer and perhaps die in the process. Whatever be the source of heat for the room—gas or coal fires—it should be carefully guarded to prevent accidents. Coal-fires brighten a room, and do not cause any unpleasant odours, as gas fires do if ventilation is at all fault.

*Ventilation.*—This name expresses the process by which we exercise a supply of good air, and implies the removal of impure air. Nurseries must be carefully attended to in this respect if we wish to keep health to the inmates. It may be that there are a good number of children in a nursery, and nurses as well, and their presence implies the removal of oxygen from the air and the substitution of carbonic acid. To prevent the former becoming deficient or the latter excessive, a supply of fresh air must be coming in from the outside, and there must be an exit for the carbonic acid. In houses where ventilation is scientifically arranged for, architects make provision for this, but in ordinary cases the air rushes in by the door when it is opened, and through seams, keyholes, &c., and fires in a room assist this action, as heated air ascends, passes out of the chimney, and thus causes a current in a room, and ventilates it.

When we wish to have the room thoroughly purified, the upper sash of the window ought to be pulled down, and the lower one up, thus providing for the escape of the heated air as well as for the entrance of pure air from the outside. Where ventilation is perfectly carried on, there should be no appreciable draught, otherwise we should have the well-known bad effects of this. Fires, candles, lamps, &c., all assist in removing oxygen, and must be taken into consideration in calculating the cubic space which each child ought to have in a nursery, and, of course, deductions have to be made from articles of furniture, &c., which take up air-space in a room. In cases of illness from fevers or from any lung complaint, it is of the greatest importance that there should be free ventilation. Both kinds of disease need this, and more especially the former, where the risk of infection is the greater if there be deficient air-space. Much more could be written in this paper on the subject, but space only admits of a general discussion. Doubtless in some other article in *HEALTH*, ventilation, warming, &c., will be discussed fully.

## Healthy Houses

"A happy home must be a healthy home."—Anon.

### DRAINS AND HEALTH.

By G. E. WARING, JUN.

(From the *North American Review*.)

#### PART II.

THE history of house drainage during the last fifty years is the history of a most rapid and satisfactory progress, from the mere introduction of convenient channels for the removal of what would otherwise have to be carried out of the house by hand, to a process whose intimate relation to the health of the people is universally recognised. It has more recently exhibited a steady growth from the "modern conveniences" scattered throughout the house by the profuse hand of the plumber, with no regard to the effect on the atmosphere of the dwelling, to the "sanitary drainage" which is now so jealously guarded by intelligent Boards of Health, and in which convenience is made secondary to conditions of cleanliness and purity. It is safe to say that we have now the prospect of securing, at an early day, a constant regard for healthful conditions in the introduction into the houses of rich and poor of those appliances for convenient and more civilised living which the whole people is so fast coming to demand.

A review of this progress discloses a remarkable change in public sentiment. Twenty years ago the number of persons who paid the least attention to the sanitary accompaniments of modern living was altogether insignificant. Later, the influence of the pens and tongues of a few enthusiasts, and of far fewer philosophers, began to be felt, and that element of society which formerly expended its enthusiasm on phrenology and kindred "sciences" began to take up sanitary science as a more promising field for the exercise of its energies. This led to the condition which now prevails, when drainage is elevated to a position of undue prominence; when, with few exceptions, all the ills that flesh is heir to are ascribed to wet ground, foul soil, defective drains, and that great bugaboo of them all, "sewer-gas"; when defective ventilation, stove heat, furnace heat, bad food, and worse drink, are allowed their little-disturbed sway, the majority of their victims being charged to the account of bad drainage. The capital of the nation is notoriously the place where "malaria" plays its wildest pranks and finds its most distinguished subjects. Its site has defects, and its saturated soil is undoubtedly most objectionable. But in all the outcry against the malaria of Washington we hear little of the whiskey, and the late hours, and the dissolute life to which, probably, a more just estimate would ascribe the greatest proportion of its morbidity and of its mortality.

These remarks are by no means intended to belittle the office of proper systems of drainage in improving the public health, but rather as a precaution against that general disappointment which must follow the demonstration of the patent fact that perfect drainage is not the only requirement of perfect living. With this limitation, too much importance can hardly be attached to the subject; nor can too much earnestness be employed in urging forward every movement which looks to the removal of filth and of undue soil-moisture.

It cannot be pretended that the conditions of sanitary perfection are known; but we may safely claim that the intelligent investigations of the past few years have led to



a very important increase of our positive information on the subject. There is no doubt that some of the well-accepted theories of the present day are destined to be set aside by future investigation; but, on the whole they constitute a very good and reliable foundation for systematic work. They contain a sufficient element of certainty to justify local Boards of Health in establishing rules and regulations, the enforcement of which, whatever their imperfections—and it is to be remembered that such rules have to be prepared for universal application, not alone for those who desire and are willing to pay for the best work—cannot fail to bring about a marked improvement in the condition of life of all classes of the people.

The assumed basis for the best present practice—most of which will probably stand the test of time—may be fairly stated as follows:—

All ordinary domestic waste matters, whether offensive or inoffensive when first produced, become to about the same degree offensive when putrified. They also become to about the same degree dangerous, save that some may carry specific germs of disease, which are absent from others. All such matters should, therefore, be removed entirely beyond the house and beyond the limits of population before their putrefaction sets in. The objections attaching to the decomposition of these substances attach in like manner, but in less degree, to such of their elements as adhere to the walls of the channels through which they are removed; *i.e.*, it is important not only to consider the removal of the great bulk of our filth, but also to guard against evils arising from the decomposition of the adhering particles which mark the course it has followed.

The removal of waste matters by transportation in water has such preponderating advantages over all other systems of treatment—including the earth closet—that it is not worth while, for general practice, seriously to consider any other than the water-carriage system. The removal of solid matters in a stream of water requires a sufficient depth in the flow to carry the solids along, and a sufficient velocity to prevent sedimentation. As these elements—depth and velocity—must always work together, the size of the channel through which the stream runs is most important. An amount of water that would fill a large pipe half an inch deep, would fill a sufficiently smaller pipe an inch deep. Ordinary fecal solids are readily transported in water an inch deep, while in water of only half that depth their buoyancy would be too much reduced, and the amount of their surface receiving the impulse of the flow would be too small for their prompt transportation; so that, unless the velocity were so great as to break down the mass, they would remain in the channel. Some of the substances reaching our drains are of too firm a consistence to be broken down by the velocity of ordinary streams, and these often form the nucleus about which fouler things gather to create accumulations. Therefore it is important with regard to all drains which do not run full, that their diameter be so restricted as to give the required depth to their flow. There is another consideration of equal importance which must always be kept in view: the velocity of the stream remaining the same, the depth of the flow will be in proportion to the diameter of the pipe and to the quantity flowing through it. Therefore, as the quantity supplied in ordinary house drainage is fixed, the diameter of the pipe must be so restricted that, at the velocity with which it flows—varying according to the rate of inclination—the given fixed volume will secure the required depth. It is not, of course, possible to maintain at all times a cleansing depth of flow in any house drain; but it is possible, by regulating the diameter of the conduit in accordance with the volume flowing at

the time of greatest use, and with the rate of inclination to make sure that at some time during the day, and generally several times during the day, there shall be a sufficient depth of current to wash away what the straggling flow may have left behind.

In those parts of the house drainage where the conduit is filled with water, it is necessary to give, at least at frequent intervals, a sufficiently rapid movement to the whole mass to carry away whatever may have been deposited in these filled portions by slight discharges. Practically, this observation applies mainly to the case of traps, where a bend is introduced in the course of the pipe to hold water, as a “seal” to separate the air of the outer drain from the air of such pipes as are open to the interior of the house. In this case, velocity has to be given not only to water occupying a portion of the pipe, but to its full contents, so that the diameters of traps should be, other things being equal, considerably less than the diameters of the pipes leading to them and from them.

One of the most serious difficulties met with in practical work is what is known as “syphonage,” that is the sucking out of the water of traps by the rarefaction of the air in outer pipe, caused by the passage of liquids or air through it or across its mouth. The tendency to syphonage is greater in small traps than in large ones, the same suction being brought to bear on a smaller volume (weight) of trapping water. No satisfactory device of general application has yet been discovered by which this difficulty may be overcome with certainty and without entailing other effects equally to be feared. The present custom exacted or sanctioned by local Boards of Health is to carry a vent pipe from the upper bend of the trap to the open air, so that when the air of a pipe becomes rarefied the balance shall be restored by admitting air through the vent pipe, leaving the water of the trap undisturbed. Theoretically, this practice has much to commend it; practically, it seems to me to have grave objections, which it will require our best endeavour to remove. Our best hope lies in the devising of some other means for securing a safe trap.

(To be continued.)

## HOW TO SOFTEN WATER.

THE improvements and alterations in water-supply hitherto referred to can only be realised by Parliamentary measures, and are wholly beyond the control of private individuals. I shall now turn my attention to matters connected with water-supply which do lie within the scope of individual action and enterprise.

First, as regards the softening of water. The so-called “hardness” of water is occasioned by the presence of salts of lime and magnesia dissolved in the water. These salts decompose soap with formation of insoluble curds, and it is not until the whole of the lime and magnesia has been precipitated as curds that a lather is obtainable with soap.

Thus all water, before it is available for cleansing with soap, must be softened—that is, deprived of its lime and magnesia salts in solution. Under ordinary circumstances, this softening is effected by means of the soap itself, which refuses to lather until the whole of the lime and magnesia in the water has been removed as curds.

Now soap is a very costly article, and forms, as is well known, a formidable item in household expenditure. Since far the greater proportion of this soap is not used in cleansing at all, but simply in preparing the water for this purpose, it follows that a very great household economy would be the result of employing some less costly article than soap for thus preparing the water for washing.



Now such an article exists in the shape of lime itself, which, when added in the right proportion, effects this preliminary softening of the water at a very much cheaper rate.

The process of softening water by lime is known as Clark's process, and the following numbers show what an exceedingly valuable process this is. Thus, to soften a quantity of water which requires 1 cwt. of lime, the cost by Clark's process would be 8d., whilst if the same water were softened in the ordinary way with common yellow soap, to say nothing of the more delicate preparations in general use for toilet purposes, the cost would amount to £47. 1s. 8d.

Clark's process is, however, only applicable to water which owes its hardness, entirely or chiefly, to the carbonates of lime and magnesia—so-called *temporary hardness*; whilst water which is hardened by sulphate of lime or sulphate of magnesia—the so-called *permanent hardness*—cannot be thus softened. The water supplied in London, both from the rivers and from the deep wells in the chalk, is particularly well adapted for softening by this process.

There is at present but one company in the London district that supplies soft water well fitted for washing, and this company—the Colne Valley Company—furnishes this soft supply by treating with Clark's process the hard water obtained from the chalk. Although this process is somewhat too cumbrous to be conveniently applied in private houses, yet in hospitals, workhouses, and large establishments it may be adopted with great advantage.

By means of Clark's process a considerable reduction in the amount of organic matter in the river water is also effected, this being mechanically carried down by the precipitated chalk.—*Dr. Frankland in the "Nineteenth Century."*

**PRESERVATION OF VISION IN SCHOOL-CHILDREN.**—Dr. Adolf Weber, in a report on the examination of eyesight in the higher schools in Darmstadt, lays great stress on the importance of the proper lighting of the schoolrooms. The windows should not reach lower than the heads of the children when standing, and where it is possible, especially in rooms for drawing or sewing, light should be admitted from the roof. Properly-constructed benches and desks should be provided, and should be arranged in subdivisions according to the varying sizes of children in the same class. No class should last longer than three-quarters of an hour, and the intervening fifteen minutes should be spent in exercises for the children and in ventilating the class-rooms. The children should be carefully watched to prevent their getting into the habit of keeping their books or work nearer the eye than fourteen inches, and a reform of the writing characters (German) should be instituted. He lays stress upon the necessity of avoiding fine work, among which he mentions fine sewing, and he regards all sewing as detrimental to the children up to the age of at least ten years. He recommends a strict medical supervision of every school, to be carried out at first by existing authorities, but eventually by a special medical officer. He finds short sight to increase very much during the school-going period of youth.

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."—[ADVT.]

## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—*Thomson.*

### HEALTH AND HOLIDAYS:

*A Popular Description of the Principal Health-Resorts, Home and Foreign.*

BY A PHYSICIAN.

No. XV.—HEALTH-RESORTS DESCRIBED (*Continued*).

**VENTNOR**, Isle of Wight (which see), is the chief town of the Undercliff. This place is celebrated as a resort where consumptives during the winter and spring may take their daily exercise free from danger of the chills and cold which prevail wellnigh everywhere else in Britain. The air is mild and tonic, and differs from that of Torquay, which is of the sedative and moist type. For affections of the bronchial tubes and larynx (or organ of voice), for delicate children of scrofulous type, for cases of heart and kidney disease, Ventnor may be recommended. An iron spring exists near Black Gang Chine. Hotels: Cass's Hotel and the Crab and Lobster, Bonchurch Hotel, Queen's, Royal, Esplanade, Marine, Hillside Boarding House, Yarborough Villa Boarding House, &c. Return fares, 35s. 9d., 26s. 6d., 19s. 9d.

**WALTON-ON-THE NAZE**, Essex, is 71 miles from London and 9 miles from Harwich. Population about 2,000. This town has all the characters of the bracing east coast air, which, whilst not adapted for the weak and delicate, is yet well suited for the strong and over-worked, and for simple ailments unconnected with heart or lungs, and in which the digestive organs are able to respond to the stimulus given by the tonic air. Bathing here is excellent. Hotels: Marine Family, Albion, Clifton. Return fares, 20s., 16s., 12s. 8d.

**WARRENPOINT**, Down, Ireland, is 43 miles from Belfast, and is situated on the river Newry, where it joins Carlingford Loch. Population about 2,000. The air is bracing and tonic. A pebbly beach exists, but bathing is easy. Hotels: Crown, Newry, Commercial, Victoria. The Great Northern (Ireland) Railway issues a set of circular tours from Belfast, *vid* Warrenpoint, Newry, Rustrevor, and Newcastle.

**WATCHET**, Somerset, 180 miles from London, is placed on the southern part of the Bristol Channel. The air is of the bracing type. Hotel: West Somerset. Return fares, 58s., 44s. 2d.

**WELLS-NEXT-THE-SEA**, Norfolk, is 130 miles from London. Population about 3,000. The town lies in a bay or creek. The air is milder here than is usual in East-coast resorts, and suits delicate children and others who find these resorts, as a rule, too bracing. Hotel: Crown. Return fares, 35s. 4d., 28s. 3d., 21s. 3d.

**WEMYSS BAY and SKELMORLIE**, Renfrew and Ayr, are adjoining villages, situated on the Clyde, opposite Twellan (which see), and within half an hour's sail of Rothesay (which see), Largs and Millport (which see), &c. Wemyss Bay is the terminus of the Caledonian line of railway which leaves Bridge-street, Glasgow, and gives easy and rapid access to the Clyde watering-places. The steamers *Lord of the Isles* and *Ivanhoe* call here on their way to Inverary and Arran respectively. Wemyss Bay itself is a very quiet, unobtrusive place, consisting for the most part of villa residences; and Skelmorlie, which adjoins it, presents the same features. No amusements exist, and bathing is difficult, the beach being rocky, and



only private bathing-boxes appearing on the shore. There is no pier, save that of the railway company at which the steamers land. The air is pure, and of the bracing type; and to invalids or others requiring absolute quiet, Wemyss Bay may be recommended. Hotel accommodation is very deficient, only one hotel (the Wemyss Bay), existing, and this house itself is of small size. Fortunately, a large hydropathic establishment exists here, and visitors mostly take advantage of the resources of this latter place. From Glasgow, Wemyss Bay is distant 30 miles.

**WESTGATE-ON-SEA**, Kent, 72 miles from London. Population about 2,000. This rising watering-place has become a favourite resort, owing to its pure and bracing air, and to the absence of the popular element which renders Ramsgate and Margate somewhat distasteful to many visitors. The air is not quite so tonic as at Margate, but Westgate, on the whole, is more bracing than Ramsgate. This resort may be recommended to all who require recuperation from overwork and from general debility. In convalescence from fevers, &c., the climate of Westgate is a valuable adjunct to medical treatment. There are firm sands, and good bathing can be had. Hotels: Beach House Hotel, &c. Return fares, 22s. 6d., 16s., 10s.

**WESTON-SUPER-MARE**, Somerset, is 130 miles from London. Population about 13,000. This resort lies on the Bristol Channel, at the margin of Uphill Bay. The beach is not well adapted for bathing, but here and there convenient bathing-places have been formed. A long pier exists, and the town is well built. Weston has become somewhat famous for the tonic properties of its atmosphere, combined with a mildness which renders it suitable for invalids who otherwise would find the seaside at large disagreeable and over-bracing. Rheumatic cases, commencing lung troubles, and cases of ordinary debility are benefited by residence here. The town is 20 miles from Bristol, 30 from Taunton, and 113 from Birmingham. Hotels: Imperial, York, Bath, Railway, Plough. Return fares, 41s., 31s.

**WESTWARD HO!** Devon, is 225 miles from London. The route is to Bideford by London and South-Western Railway, and thence (5 miles) by coach. This romantic spot receives the Atlantic breezes, and has a pure, bracing air, well adapted for all purposes of holidaying. It is adapted also for cases of debility unconnected with serious disease, and for scrofulous cases. The beach is admirably adapted for bathing, and baths have also been established. A pier exists. Hotel, Westward Ho! Return fares (Bideford) 63s. 6d., 50s.

**WEYMOUTH, AND MELCOMBE REGIS**, Dorset, are 147 miles from London. Population about 14,000. Weymouth and Melcombe Regis to the east lie on the coast at the estuary of the Wey. The former is the nearest port to Guernsey, and the Great Western service of steamers makes Weymouth its port of departure. The town is built in a kind of semicircle round the bay. The sands are extensive and firm, and bathing is easy. The climate in the lower part of the town is mild, whilst above it is more bracing. Invalids may winter here as in Devonshire watering-places, a warm winter-temperature existing here. The ordinary summer climate is of a mild and somewhat sedative type, and, as such, is adapted for much the same class of cases which are sent to Torquay or Dawlish (which see). Hotels, Imperial Burdon, Gloucester, Royal, Golden Lion, &c. Return fares from Waterloo or Paddington, 45s., 35s.; Saturday and Sunday till Monday, 33s., 24s.

**WHITBY**, Yorkshire, is 248 miles from London. Population about 14,000. This town has long preserved not merely a historic, but a sanitary interest. It lies between

two cliffs, the old part being situated on the east bank of the river Esk. Two piers exist, and good bathing can be had on the sands. The air here is of the same pure, dry, and bracing type in which Scarborough (which see) excels. Accordingly, in cases of consumption, liver complaints, ordinary debility, and scrofulous affections, residence at Whitby is highly beneficial. The holiday-seeker could not find a more bracing air for recuperation; and Whitby, whilst less expensive than Scarborough, has the additional advantage of greater quietness. Hotels: Royal, Queen, Crown, Angel, &c. Return fares, 69s., 54s. 6d.

**WHITSTABLE**, Kent, 76 miles from London. Population about 6,000. The air here is of the tonic and bracing nature described as prevalent at Westgate (which see). The beach is pebbly and sandy, and bathing can therefore be easily had. Hotels: Bear and Key, Duke of Cumberland. Return fares, 22s. 6d., 16s., 9s. 6d.

**WINDERMERE**, Westmoreland, is a lake about 11 miles in length, and about one in breadth. In the vicinity of the lake hotel accommodation is plentiful. At Bowness, the Royal Hotel and Old England Hotel; at Windermere, the Ferry Hotel; the Lake side, New Hotel at the south end of the lake; the Queen's at Ambleside; the Prince of Wales at Grasmere; and the Crown Hotel at Bowness. District coaches leave the latter hotel for Grasmere, Ambleside, Keswick, &c. The air here, as at Ullswater (which see), is mild and sedative.

**WORTHING**, Sussex, is 10 miles from Brighton and 52 miles from London. Population about 9,000. The aspect of Worthing is due south, and it has a full exposure to the sun. The Southdown Hills shelter the town from the north winds. In winter Worthing, therefore, possesses the advantage of a warm, genial climate till February at least. In summer Worthing is cool, and the air is neither over-bracing nor, on the other hand, too sedative or relaxing. The mean annual temperature is 51°, and the wet days are fewer than even at Ventnor or in the West. There are very fine sands, well adapted for bathing. A long pier exists. In medical estimation Worthing excels as a health-resort for convalescents at large who are recovering from well-nigh every kind of disease. Its steady, medium climate greatly favours recovery. For children who are convalescent from whooping-cough Worthing has been long favourably known. Scrofulous cases also improve here, as do those who suffer from chronic rheumatism. Kidney troubles are recommended to try Worthing as a resort, and lung-affections of most kinds benefit from a stay in this place as a rule. Hotels: Royal, Albion, Steyne Hotel, Egremont, Marine, Railway, Royal Steyne, Spaiyard. Return fares, 21s., 14s., express; 17s. 6d., 12s. 6d., and 9s. 6d. Saturday to Monday tickets, 14s., 9s. 6d., 7s.

**YARMOUTH, or GREAT YARMOUTH**, Norfolk, is 121 miles from London. Population about 40,000. This town has acquired a reputation on the East coast similar to that enjoyed by Margate in the South. The air is clear, tonic, and bracing, and is eminently adapted for holiday-makers, for dyspeptic cases of a mild type, convalescents, scrofulous cases, in children especially. A long stretch of sandy beach exists, and bathing is therefore largely indulged in. There is a parade three miles in length, and two piers. Hotels: Victoria, Royal, Norfolk, Queen's, Star, &c. Return fares from Liverpool-street, 34s., 27s. 4d., 21s. 6d.

**YARMOUTH**, Isle of Wight, lies at the mouth of the Yar. Population about 1,000. The air here is somewhat bracing. Good bathing can be had. Hotels: George, Bugle, &c. Return fares, 34s., 25s., 17s. 9d.; Saturday to Monday fares, 26s., 20s.



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

**SENSE-CULTURE.**—The special culture of the senses is too much neglected by us in this modern busy life. Probably at no previous period of human history has the nervous system generally, and, more particularly, have the sense-organs been so severely taxed as they now are, but never have they been less carefully cultivated. This is in part, if not wholly, the cause of the progressive degeneracy of the faculties of special-sense which is evidenced by the increasing frequency of the recourse to spectacles, ear-trumpets, and the like apparatus, designed to aid the sense-organs. The mere use of faculties will not develop strength—it is more likely to exhaust energy. Special training is required, and this essential element of education is wholly neglected in our schools, with the result we daily witness—namely, early weakness or defect in the organs by which the consciousness is brought into relation with the outer world. It is not necessary to adduce proofs of the position we take up, or to argue it at length or in detail. The truth of the proposition laid down is self-evident. On the one hand we see the neglect of training, and on the other the increasing defect of sense-power. The matter is well worthy of the attention of the professional educators of youth. Muscular exercise wisely regulated and apportioned to the bodily strength is felt to be a part of education. Sense-culture, by appropriate exercises in seeing, hearing, touching, smelling, would, if commenced sufficiently early in life, not merely prevent weakness of sight, deafness, loss of the sense of feeling and impairment of the sense of smell, long before old age; but by its reflected influence on the nutrition of the brain and upper portion of the spinal cord would do much to reduce the growing tendency to paralytic diseases, which are very decidedly on the increase.—*Lancet.*

\* \* \*

**THE LIVING PARTICLE OF CHOLERA.**—M. Pasteur, who has just obtained a grant of fifty thousand francs from the French Chambers to send a scientific mission to Egypt to investigate whether the cholera be not due to the development of a microscopic living particle in the human body, states, in a letter to the *Voltaire*, the reasons which induced him to recommend the Board of Health to send out the mission in question. He says: "I urged the sending out of this mission on account of the great progress that science has made, since the last cholera epidemic, respecting transmissible diseases. All diseases of this class that have been the subject of a thorough investigation, have led biologists to the conclusion that they were caused by the development in the body of man, or animals, of a microscopic organism, causing therein disturbances frequently fatal. All the symptoms of the disease, all the causes of death, are directly under the influence of the physiological properties of the micro-organisms. What is needed at present to meet the requirements of science is to ascertain the primary cause of the scourge. Now the present state of our knowledge indicates that we should direct all our attention to the possible existence in the blood, or in such or such an organ, of an exceedingly minute being, whose nature and properties would, in all likelihood, account for all the peculiarities of cholera, both as regards its morbid symptoms and the mode of its propa-

gation. The existence of that micro-organism once ascertained, would speedily settle the question as to the measures to be taken to check the spread of the disease, and might possibly suggest new therapeutic means to cure it." The mission consists of Drs. Roux, Thuillier, Straus, and Nocard. M. Pasteur hopes that, by scrupulously attending to the hygienic precautions he has written down for them, the great danger they are incurring may be minimised.

\* \* \*

**SINKS AND HEALTH.**—The sinks ought not to be directly connected with the drains, but should discharge through trapped gullies in the area; and not only so, but the waste-pipes of the sinks, whether upstairs or downstairs, ought to have siphon-traps, with traps and screws fixed immediately under the sinks. These waste-pipes are foul pipes even when not connected with the drains, and if you do not have siphon-traps immediately under the sinks, foul air will come in, especially during the night, and you will have a very serious nuisance caused in the house in this way. The same remarks I make about cisterns upstairs apply to cisterns in the basement. The water-closets in the basement are simpler forms of closets, and they are very frequently supplied from water-cisterns by means of pipes which have merely a tap, which you may turn off or on. This is a most mischievous plan, as the cistern may be emptied and foul air enter it. The closets in the basement, therefore, ought to be supplied by means of water-waste preventers, the best kind being the siphon-action water-waste preventers, which discharge two gallons of water as soon as you pull the chain. These "preventers" are not only to prevent the water being wasted by the handle of the closet being fastened up, but also cut off the direct supply of the closet from the drinking water cistern. The rain-water pipes ought to discharge on to the surface of the areas, where there ought to be siphon gullies connected with the drains. The soil-pipes ought to be outside the house, and connected with the drain by plain stoneware bends, or, under certain circumstances, disconnected from the drains themselves by a trap with an open grating. Such a trap is called a disconnecting trap. One of the water-closets in the basement is very frequently in an exceedingly improper position—either in the scullery or actually in the kitchen. I have known such to be the case several times; in one instance it was in the larder! Of course, I need not tell you these are all very improper positions. These w.c.'s ought all to be outside the house. It is certainly better even in large houses only to have one closet *outside* than more, one of them being in the larder or kitchen.—*Lecture by Dr. Corfield.*

\* \* \*

**DR. E. HODDER** (*Practitioner*), has practised the trans-fusion of milk, freshly drawn from a cow, into the veins of two patients in a state of collapse from cholera. The effect, after injecting fourteen ounces in the first case, was rapid recovery, the purging and vomiting ceasing at once, and the pulse returning to the wrist. The milk was injected into a vein in the arm by means of a simple syringe. The syringe and bowl for the milk were heated to 100° Fahr.

CASES of poisoning by laburnum are amongst the most common fatalities of country life. The symptoms, we learn from a letter to a medical journal, come on within half-an-hour or an hour after the pods or seeds have been swallowed. The most successful treatment was that in which five or six grains of sulphate of zinc were administered as an emetic.



## Our Bookshelf

"Reading maketh a full man."—Bacon.

### THE BUILD OF THE BRAIN.

*On Failure of Brain Power.* By JULIUS ALTHAUS, M.D., M.R.C.P. Second edition. (London: Longmans & Co.)

THE due preservation of our mental health is a highly complicated business, and one which owes its complexity to the intricate relations that subsist between the nervous system of the body at large. As a familiar fact of everyday life, we know how largely life becomes tinctured with brightness or the reverse, accordingly as we look at things in a cheerful, or in a morose and lugubrious fashion. It is not always an easy matter to account for the varying moods and phases of our mental life; but one thing is clear, and admitted, namely, that the welfare of the mind is a matter which largely depends on the condition of our bodily health. Everyone knows how a fit of indigestion makes many a man, for the time being, a morose, discontented individual, and how life seems to be entirely "out of joint" when the liver has been disturbed in its duties. Even a fit of toothache is a sad disturber of our mental atmosphere, and extraction of a tooth has, before now, restored the balance of mind, and converted a thoroughly discontented being once more into a rational soul. Mind and body thus react one upon the other; and as regards the influence of the latter on the brain, there is no reason to doubt the thorough and innate truth of the classic aphorism which inferentially maintains that the sound mind is alone to be found in the healthy body.

In the work before us, Dr. Althaus attacks the difficult problem of brain-health from the opposite standpoint. He seeks to show that many brain-troubles are really "local" affections. That is to say, that many of the conditions which require the attention of the medical man in connection with affections of the brain and other parts of the nervous system, are confined to special "parts" of the brain or nervous apparatus at large. As such, says Dr. Althaus, these diseases "require local treatment as much as other maladies." The idea of curing diseases of the brain by applying to various parts of the head local treatment will doubtless sound in the ears of many lay and professional hearers an almost unwarrantable assumption. Yet Dr. Althaus, in our opinion, makes out a strong case for his contention that it is possible and proper to treat brain-troubles by the direct application of remedies to the seat of the disorder. This idea, carried out under the light of further research, may prove to be a singularly useful and valuable method of relieving the troubles of the central organ of the nervous system. Our author concerns himself in this *brochure* with those diseases of the brain which are to be regarded merely as affections in which there exists loss of power in different parts of the organ of mind, without alteration of the brain's structure. He deals, therefore, to use the scientific term, with "functional" as distinguished from "organic" brain disease.

In order thoroughly to appreciate Dr. Althaus's views and position, we must bear in mind that the brain, as he remarks, is not one organ, but a whole series of nervous "centres," the functions or duties of which are more or less clearly separated one from the other. This primary fact in brain-physiology lies at the foundation of our understanding the duties and relations of the parts of which the brain consists. The common notion of the brain as one great organ of "mind" is utterly erroneous. There are high and low parts included within the limits of the brain-

structure; and only a limited part of the brain, so far as has at present been ascertained, is concerned with what we call the operations of "mind." Other parts of the brain are concerned with the reception of the messages (or "sensations") which are telegraphed, so to speak, inwards from eyes, ears, nose, and other sense-organs. Certain parts, again, have to do with the regulation of the body's movements; other centres adjust and maintain the body's equilibrium; and other parts still, control breathing, the heart's action, swallowing, &c. The brain is thus a compound organ. This consideration alone, founded as it is upon the results of experimental research, and upon the careful observation and analysis of the phenomena of disease, serves to show how futile was the attempt of Gall, Spurzheim, and others to endeavour to localise the functions of "mind" on the surface of the *cerebrum*, or "great brain." A new "phrenology," founded on scientific observation of brain functions, has displaced the "phrenologies" of former days which had no scientific justification whatever.

If we look at the brain, as seen in a side view [and as shown in the accompanying figure, which we borrow from



View of the Brain from the left side.

Dr. Althaus's work], we note that the great bulk of the organ appears to consist of the *cerebrum*, or "great brain," which thus fills up the greater part of the cavity of the skull. Behind, at the nape of the neck, we see the *cerebellum* (see Fig.) or "lesser brain," which appears to be the organ for "co-ordinating" the movements of the body—that is, for bringing the muscles of one side into harmonious action with those of the other side. It is "the centre for the equilibration of the body." The *spinal cord*, which, as every one knows, runs down within the spine and forms the main nervous trunk of the body, exhibits at its upper part the *medulla* (see Fig.), which is the most vital part of the whole nervous system. It is from the medulla that the heart's action, breathing, and swallowing are controlled; whilst the centres that govern the flow, or rather secretion of the *saliva* or water of the mouth, and those which control the bloodvessels (as in blushing, &c.) are also situated in the medulla. The disease known as *diabetes* would also appear to be connected in some way with this part of the nervous system.

There are other parts, or centres, included in the brain, in addition to the three just mentioned—*cerebrum*, *cerebellum*, and *medulla*—and which are shown in our illustration. Thus, the *Pons Varolii*, or "Bridge of Varolius,"



shown in the figure (and marked "Pons"), along with another part of the brain, are believed to be *emotional* in their nature and function. They possess command over the emotions, and control such acts as laughing, crying, &c. The fifth part of the brain consists of the *Central ganglia*; these latter being deeply-seated parts, which appear to perform those actions which we are accustomed to perform "automatically," or in machine-like fashion. For instance, whilst when young we require to think of the shape and form of letters, or the sounds of words and of combinations of words, in learning to read and to write, in later life we do not need to pay any attention to these details. At first the effort to recognise the form of the letters and to remember the sounds of letters and words was an intellectual effort—an affair of mind. Afterwards this intellectual process becomes "automatic," and it is believed that the "central ganglia" of the brain convert actions which are at first intellectual, into machine-like or "automatic" performances. We may understand this action more clearly still, if we think of a pianist, who at first requires to study intently a musical composition. In a few days thereafter the pianist may play the piece perfectly, and, at the same time, talk about something utterly unconnected with the composition to a friend at his side. It is the "central ganglia" in the latter case which really plays the tune, just as it is the intellectual part of the brain which does the talking. That intellectual part consists of the *frontal* (or forehead) *lobes* of the brain (see Fig.), and it is to the duties and affections of these all-important parts that Dr. Althaus specially directs our attention.

(To be continued.)

**HEALTH.**—Without individual intelligence and appreciation of health-laws and health's value, there can be no true health-reform at all. Nay, more, the sacred duty we owe to our neighbour, in virtue of which duty we expect and demand the mutual consideration that makes life pleasant and society a possibility, is perhaps better illustrated by the question of health science than by any other phase of social existence. Suppose that I live up to every law and rule of health which science lays down for the guidance of the race; grant that in my dwelling I observe, along with my household, every requirement of sanitation; imagine that I and mine live the truly healthful life, of what avail, let me ask, will all this care be if my neighbour is a sloven in health matters? Of what advantage is my care, when his carelessness floods me with sewer-gas, when his fever spreads, through his ignorance of health laws, to me? It is clear that in the complex warp and woof of civilisation I must perforce, even were I less willing than morality makes me, consider my neighbour's interests as my own. I must, if I am to live safely, see that other individuals acquire a like culture to mine.

#### A REMEDY FOR ASTHMA.—

R.—Tinct. Lobeliæ .....	Five ounces
Ammonia Iodide .....	Two drachms
Ammonia Bromide .....	Three drachms
Syr. Tolutani .....	Three ounces.

M.

Teaspoonful every one, two, three, or four hours. This gives relief in a few minutes, and sometimes the relief is permanent.

**HAMPSTEAD.**—High and healthy position, near the Heath. STANFIELD HOUSE SCHOOL for sons of gentlemen. Home comforts; and the health of pupils carefully studied. Individual teaching. Principal: Mr. W. R. Marshall (several years' experience), assisted by eminent masters. Prospectus on application.—[ADVT.]

## Sanitary Appliances, Etc.

### PURE RAIN-WATER.

AMONG recent inventions for domestic purposes, few are likely to be of greater sanitary use than one for securing pure rain-water. The rain that first falls upon a roof brings down from it all the soot, bird-droppings, and other impurities that have been collecting since the last shower. Under ordinary circumstances these are all carried into the store-tank. The insoluble portion of these impurities settles at the bottom, only to be stirred up again by every fresh fall of rain. Such water, at its best, holds in solution deleterious substances not removable by ordinary filtration. When sufficient rain has fallen to wash the roof, water comes from it absolutely pure—nature's distilled water, evaporated by the sun and stored in the cloud.

The Sanitary Institute of Great Britain has recently awarded a medal to the Rain-Water Separator manufactured by Mr. Roberts, of Haslemere, a self-acting and simple contrivance that effectually rejects the foul and stores the pure water after the roof is washed by the rain.

It has no resemblance to a filter. All former contrivances for obtaining pure water from rain have attempted to remove dirt from

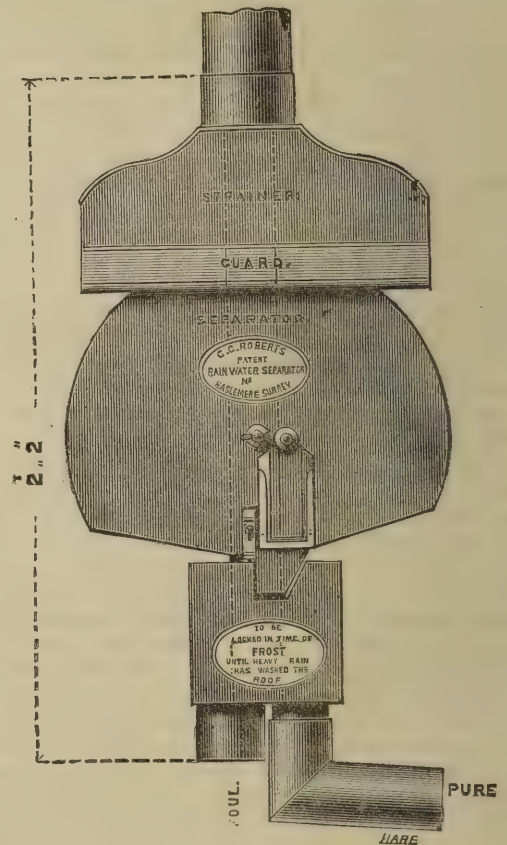


Fig. 1.

the water after it has been stored. Instead of this, the Separator is balanced upon a pivot in such a way that it allows the first portion of the rain-fall that washes the roof to run away down a waste pipe or into a foul-water tank. At the end of a given time (from three to nine minutes, according to the adjustment of the apparatus), the Separator turns upon a pivot, and directs the pure water into the storage tank.

Fig. 1 exhibits the exterior of a Separator suitable for a roof of 600 to 1,000 ft. area. It is made of zinc, 14 in. wide and 26 in. high. It is easily fixed by an ordinary workman to the side of a house in any convenient place between the roof and the tank, one length of the stack-pipe being removed and the Separator inserted, so that the water passes through it to the tank. The upper part of the illustration is merely a strainer, with a perforated plate to prevent rubbish passing into the Separator.



Figure 2 gives a section of the apparatus, and will serve to explain its action. *1st Action.*—The separator is divided into two compartments. The first, into which the water falls, has a small hole at the bottom, proportioned to the size of the roof, through which the water passes into the discharge pipe, and runs normally to waste or to a separate tank. When the rainfall is more than can pass through this hole, the water rises till it reaches two small holes, through which it flows into the second compartment. This compartment fills very slowly, because the water escapes therefrom almost as fast through a hole at the bottom. When the second compartment has filled to a certain level, the Separator is overbalanced or canted so that the discharge is directed to the storage tank. *2nd Action.*—If the rain is very heavy, the first compartment is filled to the top, and the second fills rapidly, so that the separator acts sooner in a heavy downpour than in a moderate rain. *3rd Action.*—When the rain is leaving off, the second compartment is kept full by an auxiliary pipe, so that the Separator remains canted after the water has ceased to pass from the first into the second compartment; by this means the last drop of rain is stored.

*Detailed Description of Apparatus.*—A. Removable strainer with perforated plate to prevent rubbish passing into Separator. B. Outlet for water to pass to Separator. C. Separator balanced on pivot. D. Small compartment into which the rain-water first falls.

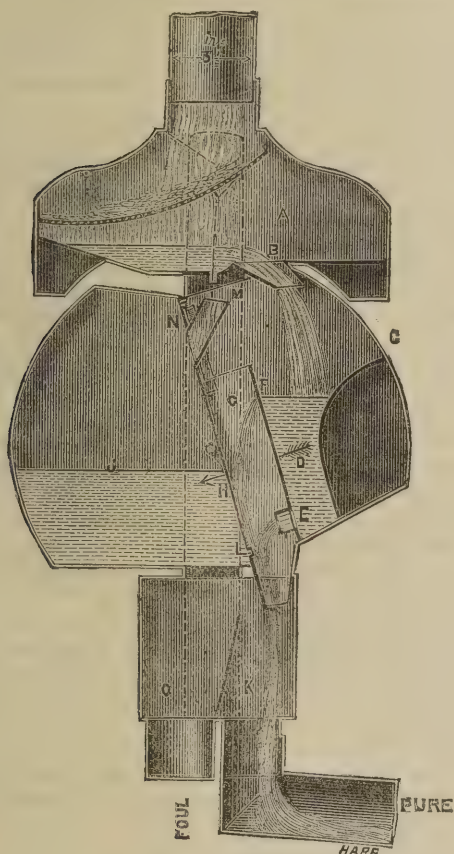


Fig. 2.

E. Small hole fitted with washer proportioned to size of roof. F. Larger hole to take the overflow from D during moderate rain. G. Discharge pipe. In a storm the water fills the compartment D and flows over the top of this pipe. H. Small holes at back of G between compartments. When the rain-fall exceeds the discharging capacity of hole E, the water rises in compartment D, and, passing through holes H, slowly fills compartment J. When the weight of water in J overbalances the Separator, it is canted (as shown in drawing) and the water (by that time pure) directed by the discharge pipe G into the storage pipe K. L. Small hole at bottom of compartment J. M. Auxiliary pipe for keeping compartment J full after the Separator is canted when the rain is leaving off, so that the last drop of rain may be stored. By raising the slide N, a third and a fourth hole can be opened at H; this will cause the compartment J to fill more rapidly. The whole of the water passes through the discharge pipe G, which conveys it into

the waste pipe P, so long as it remains uncanted in the position shown in the left-hand figure. The length of time it remains in this position, running the water to waste, is regulated by the slide N to suit the smokiness of the locality. The dotted lines down the centre indicate the position of the iron frame to which the apparatus is attached, provided with holes for fixing to the wall.

The price of a Separator varies from £1. 15s. to £5. 10s. for roofs of from 300 ft. to 5,000 ft. area. The apparatus being strictly self-acting and not liable to get out of order, it needs no other attention than an occasional washing. The first Separator was sent out in 1879; it is fixed on a group of five cottages at Rogate, in Sussex. The purchaser left it to the care of one of his cottagers, who washes it about three times a year, drawing the centre part off the pivot for that purpose. It has needed no other attention, and is reported to be as good now as it was at first. A few have been fitted up in London and other large towns; but the Separator is most valued in districts where well-water is of bad quality or only to be obtained by sinking to a great depth.

#### A USEFUL HOUSEHOLD SOAP.

HUDSON'S EXTRACT OF SOAP.—The march of science has had no more appreciable effects than in the vast improvements it has effected in the manufacture of soaps. Purity and excellence, and above all, easy use, are qualities which have been largely developed by patient chemical industry. We have examined samples of "Hudson's Extract of Soap," and have also made practical trial of its qualities, and are able to state that, as regards its cleansing powers, it is a most efficient medium, and, as an additional recommendation, we may add that its detergent qualities are obtained with half the labour that it is necessary to employ in the case of solid soaps. This extract is not intended for use as an ordinary skin soap, but we have found that grease stains and smears on the hands are quickly removed without ill effects by its use. We have also experimented with the soap in washing ordinary fabrics, and have found that it operates quickly and thoroughly in the laundry, while in the scouring of ordinary tweed clothes, coats, trousers, &c., we should think this soap-extract would be found invaluable. In no case could we detect any injury to the fabric after its use. Painted work was readily washed and cleansed by its use, and we have also tried it with complete success in cleaning hair brushes. With a proper flow of water after use, no disagreeable odour remains, and this we esteem to be not the least of the recommendations which should ensure its constant use in every household, the head of which recognizes that cleanliness and health are synonymous terms.

#### A CURE FOR COLDS.

HOGG'S HOREHOUND HONEY.—Messrs. Hogg, of The Apiary, Leconfield-road, Stoke Newington Green, London, N., have sent us a sample of their "Horehound Honey." This compound is a pure, agreeable form of demulcent, which will be found most agreeable and efficacious in all forms of throat and chest irritation. In our experience it has relieved cough and eased chest pain by promoting expectoration. As a handy preparation for adults, and especially as an agreeable form for prescribing for colds and coughs in the nursery, Messrs. Hogg's honey should be specially recommended.

LAW IN NEW JERSEY AGAINST SMOKING.—A recent law in New Jersey declares:—"That hereafter no person or persons in this State shall knowingly sell any cigarette or cigarettes, or tobacco in any of its forms, to any minor under the age of sixteen years."

MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphate of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals." — *Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]



## Our Letter : Box

"Conference [maketh] a ready man."—Bacon.

### LETTERS TO THE EDITOR.

#### THE SORROWS OF SHOPWOMEN, AND RATIONAL DRESS.

SIR,—The writer of the letter signed "M. A.," in *HEALTH* of last week, asks, "Can nothing be done to remedy this state of things?"

I firmly believe nothing can be done until women in general choose to recognise the fact that their present system of clothing is founded on a completely false theory of the human (female) form. Briefly the idea is this: that women have not legs, and that they have a great compression in the middle of the body which is called a waist! A very little observation of anatomical models or statues will convince most persons how mistaken both these notions are. They will see the compression is entirely artificial, and that that which relieves the figure from clumsy straightness is not a grotesque and disgusting deformity of the body, but the simple fact of its having two legs. To remedy this strange delusion, therefore, it is not sufficient to leave off stays, as, if the legs are still ignored, the result is merely a most hideous and heavy dress. No house of business could allow its shopwomen to present such an appearance, as the mere sight of them would make customers imagine that anything produced there would be dowdy-looking; so, in order to preserve their business, they are forced to require the assistants to keep up the conventional figure that at present an ignorant world believes to be that of women. The object, therefore, of all who wish to better the condition of women, should be to get a dress generally adopted, which, bearing some resemblance to the human form as nature made it, would look well on the perfect natural figure. Such a dress would be one where the bodice, by following the lines of the figure, without looking as if it was glued to it (as it does at present) would look the same with or without stays: and where the legs would be clothed separately in some sort of graceful eastern trouser, with a short drapery in tasteful folds coming a little way below the waist.

Until, however, people can be brought to see the degradation involved in persistently deforming their own bodies, and ruining their health, to keep up an ignorant and stupid mistake, it is not likely that what is (mis)called beauty in dress will be anything but a source of pain and misery to those doomed to wear it.—Yours faithfully, W. H. H.

### QUERIES AND ANSWERS.

#### GENERAL.

J. McL.—1. A bundle of quacks; the Glasgow one and the Stirling one notorious; the "Electric" firm well-nigh as bad, judging from their pamphlet; and the "Dispensary" quackish to the backbone (if it has any). Will you do us the favour to write out (for our own use, giving name and address, which shall be kept private) a full account of the money, treatment, and other details of your relations with the quacks you have consulted? Such details, in our hands, may save others from pain and loss of time, money, and health. The "belts," &c., have been duly exposed in Mr. Carpenter's second and third articles in *HEALTH* (Nos. 20 and 21). Take no further notice of the quacks, or of any firm professing to cure you. No names of "qualified" men being given, you, like ourselves, must decline to believe anything about "qualifications." There can be no "exposure" of "patients." Quacks know too well the value of secrecy as to their doings. 2. We do not believe in the efficacy of *liquids* for the teeth. 3. The "cell salts" we have had no personal experience of. Dr. Schüssler is a fully-qualified German physician. 4. Your dietary is nourishing.

A. X.—Yes; we shall refer to the case shortly. It is an interesting study of what has been called "stigmatism."

BELLEVUE.—See No. 17 *HEALTH*.

ARTHUR C.—If, of course, you do not take time or trouble to inquire regarding quacks, you can only reap the fruit of your negligence. But, all the same, the law, we agree with you, should protect those who, like you, in an unguarded moment, consulted such a scoundrel, and have been mulcted.

#### SANITARY.

SEEING that many correspondents write to us inquiring where analyses of food, water, &c., can be made at reasonable charges, we beg to state that such analyses are performed speedily and with all scientific care and skill, under the direction of Dr. Hassall, at the Analytical Institution, 54, Holborn-viaduct, London, E.C.

WATER.—Send sample to the Analytical Sanitary Institute, 54, Holborn Viaduct, London, E.C. Their charges are reasonable, and you will get a trustworthy analysis.

A. F.—We advise you to apply to Messrs. Houghton & Co., sanitary plumbers, 21, Sloane-terrace, London, S.W. They will adjust, in a satisfactory manner, all the inconveniences you name. Kindly mention the name of this journal in referring to Messrs. Houghton.

#### MEDICAL.

ERIN.—1. We are not aware that a redundant "calf" is an absolute necessity for successful volunteering even in a kilted corps. Possibly your calf-muscles are developed in proportion to the rest of your frame. Bicycling or running exercises may be tried. 2. Better not attempt to force moustache growth. See our papers on the "Hair" in Parts I., II., and III. of *HEALTH*. Smear the eyelids at night with a little pure Vaseline.

A. D.—We should recommend you earnestly to consult a physician. The profession will exercise every delicacy, and you need fear nothing. For the present we recommend you to apply glycerine of borax on lint as a dressing to the sore surface, and attend to cleanliness. Take the following as directed:—Iodide of potass, 2 drachms; infusion of calumba, 6 ounces. A dessert-spoonful thrice daily. Glad to advise further if necessary.

MACRINUS.—1. Milk and eggs may be taken in your dietary. 2. Write to the Secretary of the Vegetarian Society, 56, Peter-street, Manchester. 3. Any southern resort, if Whitby or Scarborough are too bracing. Southport or Blackpool should suit you.

L. S. A.—You need not dread any consequences such as you suggest, and you should not grow morbid. In your case we feel inclined to suggest that a complete change of air for a week or two would work wonders in your case. If you could afford a fortnight, say, at Harrogate, and try a course of the waters there, you would benefit, we think. You are possibly too closely confined to business. Try the effect of a little more fresh air and exercise. As an aperient and liver-stimulant, try the "Victoria Ofner Bitter Water" in small doses. Rest after food, and take small doses (say 10 drops thrice daily) of Wyeth's Dialysed Iron.

HARRY BEES.—No need to fear. The step you mention will probably (wisely and, above all, moderately, pursued) do you good. The symptoms you exhibit have no connection with your earlier years. Take Fellows' Syrup of the Hypophosphites, a teaspoonful in a wineglassful of water thrice daily before meals.

JAMES.—1. Nothing unusual. 2. Not dangerous. Drink soda or potash-water, or plain cold water in plenty, when such a symptom appears. The cause is probably connected with your food or over-exertion. We wish you all success in your new sphere. Glad if you will recommend our work in the New World.

ENGINEER.—There is no radical cure for such veins. You should have a long and proper stocking; silk will be better than cotton. Rest and sleep, with your leg on a pillow, so as to favour the return of the blood along the veins; and, above all, see that you do not become constipated. Try a vegetable dietary, or drink "Sparkling Ems" or "Æsculap" water.

J. HARLEY.—Don't grow morbid. See (and take) advice given to "Harry Bees" in present number. Try cold sponging in the morning, take moderate exercise, sleep on a hard mattress, and don't take fluids late at night. Above all, steer clear of the quacks, "religious" and otherwise.

DEMONSTRATOR.—Glad to advise you. We do not see any special elements in your case which should cause alarm, far less anxiety. You don't suffer from any disease; why, therefore, should you be anxious? You know as well as we do that moral and mental restraint is of use, and will accomplish wonders. Never heed the natural symptoms, but as you value your health give up all avoidable cause for these symptoms. Don't work over-hard, which is as great a mistake as idleness. Try a change of work occasionally, and, above all, don't grow morbid.

P. TWYMAN.—The "lumps" you mention are or were enlarged glands. We should say the complaint was constitutional, and not brought on in any way. So far as your children are concerned, see to their health (as you are doing); take them to the seaside as often as you can—a bracing place—clothe warmly, and if any weakness appears treat them at once with cod-liver oil, to which the syrup of the iodide of iron has been added.

M. L. B.—No; indeed we cannot recommend the preparation you name, as, having analysed it, we do not find its composition to warrant any belief in its much vaunted properties. We regard a



tonic such as that recommended to "Harry Bees," in present number, as infinitely superior in every way to all such quack preparations. People who profess to "cure" everything and anything are "quacks" in the literal sense of the word.

HEALTH.—Thanks for pamphlet. The quack is clever enough to delude by professing to have been the victim of other quacks—"an old stage trick."

C. THORNTON.—We have no faith in "private" hospitals for this or that trouble, and the "Institution" you mention, seeing that a fee of 5s. is charged, is only a consulting-room after all. As no name is given, we suspect "quackery" at once—professional is the reverse. Our advice to you is to patronise no such establishment. Go to any ear hospital which is well known and superintended by qualified men. An "ear department" is attached to all the large hospitals.

P. CAMERON.—Personally, we have had no experience of the remedies you name in diphtheria. We have heard, however, they have been used with success in that affection. The treatment consists in gargling and swabbing the throat with Condyl's Fluid or carbolic acid; in hot inhalations; an even temperature (65 deg. to 68 deg. Fahr.) of room; and large doses of steel drops (thirty drops every two hours in water). Medical attendance is, of course, absolutely essential.

ADA SPENCER.—1. See our papers on the "Hair" in Parts I., II., and III. of HEALTH. 2. Poultice the bunion with a bread poultice, and use afterwards a plaster spread on soft leather. Wear easy shoes. Painting with tincture of iodine might also be tried.

J. LOW.—You do not suffer from any disease, therefore keep your mind perfectly tranquil. See advice to "J. Harley" in present number. The symptom you mention is perfectly common in healthy persons. Take open-air exercise in plenty, sleep on a hard mattress, and avoid all stimulants. Cold sponging every morning should also be tried.

INDIAN SUFFERER.—See advice to "Harry Bees," "Demonstrator," and "J. Harley" in present number.

DOROTHY.—We fancy that ten-drop doses of *Fer Bravais* in water, thrice daily or so, taken when your affection troubles you, would benefit you. Iron is the sheet-anchor in the treatment at least, and we think our advice may be found effectual. Of course, you must avoid chills and attend to your general health.

RAMESES.—1. See reply to "W. Garth," in No. 20 HEALTH. 2. State condition of eyes; meanwhile avoid smoking, hot rooms, or reading late at night. 3. Consult a surgeon regarding deformity. 4 and 5. We prefer the charcoal biscuits. See to your teeth, and wash out mouth frequently with Condyl's Fluid and water. The use of "Æsculap" mineral water should benefit you.

PROSELF.—1. Consult a good dentist. Professional advice of this kind is necessary. 2. Clothe warmly; avoid beer and stimulants; try hot salt baths. Drink freely of potash water, and attend to general health.

BRADFORDIAN.—General health must first be attended to, and teeth seen to; food to be light and nourishing, and state of bowels to be carefully regulated by the use of a mineral water such as "Hunyadi Janos." For the local trouble, iron must be taken internally as presented above to "Dorothy," and an injection of "Chloralun" and water used twice or thrice a day.

J. FRANKLIN.—You do not give particulars of food, &c. Meanwhile try the effect of as complete an alteration in food as you can make. Avoid vegetables by way of trial, and rest after meals. The tonic recommended by "Harry Bees" in present number might prove serviceable in your case.

CHARACTER.—1. We do not know the book you refer to. 2. The "Sermon to Young Men" by Dr. Pratt is a little pamphlet, the perusal of which would, we think, save many from the quacks, who ruin health and purse. It deals with matters which every thinking person should know.

KATINKA.—The "throat protector" shall be duly tested. Its virtues can only be those of ordinary flannel, if it resembles those we have seen.

A. HUGGAN.—See reply to "A. A. Tweedale," in No. 21 HEALTH.

H. HOBBS.—1. You can obtain either the numbers or parts of HEALTH from any bookseller by ordering them, or by sending stamps to the Publishers of HEALTH at the office. 2. You do not give any history of your case, nor do you state how the "nervousness" began. It is well to know that many persons have not "steady" hands constitutionally and naturally, but such persons, in many cases, can execute work as delicate as those with "steady" limbs. Not knowing enough of your case, we can only for the present advise you to attend to your general health. You might also try the tonic recommended to "Modern Athens" in present number. Write more fully.

PEJOR.—The person might improve at the sea-level, or nearly so in one of our South-western resorts, (e.g., Bournemouth, Torquay, Sidmouth, Dawlish) all of which are described in our "Health

Resort" papers. See what is said in No. 21, HEALTH, in reference to Torquay and the different levels suitable for different complaints. Our advice to you is to be guided more by the nature of the locality than the level. Certain high altitudes (e.g., Davos Platz, 5,352 ft. above sea-level, according to Dr. Frankland,) are noted for their suitability for consumptives and other patients troubled with lung complaints. We should say your friend ought to be guided by his physician's advice; and as far as we can judge, a resort like Bournemouth or Ventnor, would suit his case. Glad to be of any further use to you.

ANXIOUS.—1. The chains you allude to have been tested by Mr. Carpenter, and are proved to be highly efficacious as producers of electrical currents, and stand thus in contrast to the shams which are so widely advertised. A chain-belt would suit your case, we should say. Write to the proprietor (194, Regent-street, London, W.), who will be glad to afford all information. 2. The change to New Zealand might aid your health. We believe there is no special preference as regards situation. There could be no harm in the voyage at least. Have you tried hot salt baths?

PARALYTIC.—In some respects your case is a peculiar one, and we seem to see that you have somewhat unwisely refrained from going to headquarters for advice. Take our advice, and consult the Professor of the Practice of Medicine in the University of your city, or the Professor of Clinical Medicine therein. If you cannot afford the consultation fee, secure their advice at the Infirmary near the University. Your case is one for a thoroughly able medical opinion, and this you have not had as yet. Don't go near "herbalists" again.

G. P.—Whatever you do, don't go slicing your skin again, under the false notion that you can let anything out, and thus remove the mark. We should say let well (or ill) alone. You might try the lotion for the skin recommended to "Flora" in HEALTH, No 21. Write again, if unsuccessful.

W. B. NICOLL.—(Send stamps for copies of HEALTH to the Publishers, not to Editor). It is difficult, if not impossible, to alter or to produce any change in the colour of such a scar. Recommendations to blister the part are not, in our opinion, of use. You should understand that a scar consists of new tissue formed by healing action, and different from the skin itself.

GLAMORGAN.—Many thanks for your kind notice, and for your appreciation of our efforts to instruct in health-science. Which preparation of iron do you take? The dose is correct; but we should recommend the iron to be taken in water, after food, thrice through the day (dose as before). Don't take iron after tea or coffee, these being incompatible. 2. Yes; the instrument you name is that we thought of. Under medical guidance, you may be able to use it. 3. Lime-juice (Feltos's), diluted with water, is a good drink for you. 4. The cold bathing should be continuously used.

TOM.—Inquiries cannot, as a rule, be answered in the same week as that in which they are received.

TAKEN IN.—Just so: your account of the quacks is interesting, and we shall preserve it for future use.

HORATIUS.—Thanks for your recipe. Hops are used in medicine for various affections. We doubt if every case of indigestion could be relieved by your formula.

K. B. E.—Give the patient cod-liver oil, with the syrup of iodide of iron added to it. Try also Carnrick's "Beef Peptonoids," as a highly nutritious preparation made into a strong soup by the addition of hot water. What was the source of the abscess? A change to the sea might do good.

J. FRANKLIN.—Read our reply to your former letter, and write again if necessary. See reply to "Tom" in present number.

J. J.—No; for such cases are not suited for a hospital. Doubtless, as an out-patient you would get advice at any hospital. See advice to "A. L." in No. 17, HEALTH; to "G. R.," No. 20, HEALTH; and to "Modern Athens" below. Write fully, and we will advise you, if necessary.

MODERN ATHENS.—See reply to "J. J.," above. Try as a tonic Fellow's "Syrup of the Hypophosphites," a teaspoonful thrice daily in a wineglassful of water. In your cure moral restraint counts for everything. Avoid quacks; your case is one simply for a little time and care.

H. A. T. S.—See reply to the "Shopwoman," in No. 20, HEALTH.

J. A. W.—Your case is one simply for strengthening your general system. Follow advice given to "Modern Athens" above, as regards tonic. Bathe parts with cold water morning and night. Rest as much as possible; and write again after a trial of our advice.

SCOTSMAN.—The pamphlet is the production of a well-known Birmingham firm of quacks, who were exposed long ago by Dr. Courtenay. They are a notorious crew. As you value health and purse, have nothing whatever to do with them. See advice above to "J. J." and "Modern Athens."



**CLEOBIS.**—Your cure must be mental more than physical. Don't let your ideas (probably quite correct) about the "unjustness of things" make you physically morbid. We recommend you to try the tonic recommended to "Modern Athens" above. 2. To syringe the nose night and morning with Condy's Fluid (one part to five or so of water). 3. To try a change to the sea for a time—a step often fraught with great good in cases like yours; and 4. To work less for a time, and to give up, for a time, all but necessary work. Write again after a trial of our advice. A little cod-oil and syrup of iodide of iron is of use in such cases.

**GIGAS.**—The growth of different individuals ceases at different periods of time—that is to say, there is no fixed standard of time at which maturity arrives. Certain parts of the skeleton are not completely ossified till after the age of 21. We should imagine increase in height would best be fostered, if at all possible, by the ordinary means of active exercise, added to nourishing food, &c.

**J. HAWKINS.**—Depends on the precise form and nature of the indigestion. The preparation you name is thoroughly reliable; but we should advise a longer trial than a week. Your dietary should also be carefully regulated.

**A. B. C.**—Please to note: 1. That we cannot possibly reply to letters here the same week in which they are received. 2. That your initials, "A. B. C.," have been duly appended to the answer to your query in last number of HEALTH. The letters "A. C." were the initials of another correspondent.

**HUGH K.**—No truth in the assertion. A proper lime-juice (e.g., Feltos's "Specialité"), diluted with water, makes a capital and healthy summer drink.

**CORONA.**—Our idea is that you suffered from a simple inflammatory affection, common enough as the result of some simple (not specific) infection. There is no evidence in your letter that the affection was of the nature you were liable to think of. Our notice

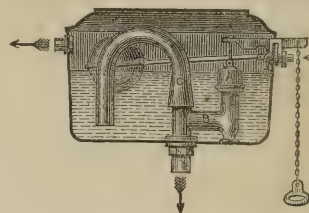
is to take the tonic recommended to "Modern Athens" in the number of HEALTH. The use of injections we should, for the present, discountenance. Write again if not better, and for a time give up active exercise, and rest.

**F. M. NORMAN.**—We commend Mr. Carpenter's articles on electrical appliances, now being published in HEALTH, to your notice. We know the belts you speak of. What Mr. Carpenter says of the impossibility of pieces of magnetised steel sewn into flannel as in these belts doing any good (apart from warmth) we heartily endorse. The brush you name we regard as an electrical sham. It has pieces of magnetised steel on the back, and a compass needle is not a galvanometer. We suspect your friend's "cure" is a case of "flannel and faith"—and this is all the more likely, since she is a nervous and susceptible person.

**W. ROBERTSON.**—Moral restraint; a well-ventilated bedroom; no stimulants; hard mattress; no fluids to be taken late at night; avoiding sleeping on back; cold sponging; moderate exercise.

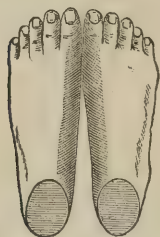
**STELLA M.**—See advice to "Shopwoman," No. 20 HEALTH. Write again if not improved. Try also a little *Fer Bravais*—ten drops thrice daily in water.

#### NATIONAL HEALTH SOCIETY'S PRIZE MEDAL, 1883.



A First-Class Award and Three Certificates of Merit at the Medical and Sanitary Exhibition, 1881.

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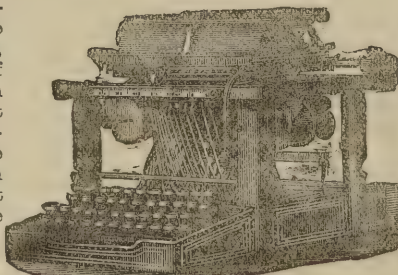


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"BISHOPHOPE, YORK, October 14th, 1882.

**BEEMAN & ROBERTS, Sole Agents, 6, King [Street, Cheapside, London, E.C.**



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, SEPTEMBER 14, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

THE "wasp sting" question to which we referred last week has again been attracting notice. Two correspondents of the *Times* have this week referred to the matter, and have recommended that simple and homely remedy, an onion, as an infallible cure for the pain of a sting. Here is the account given by one correspondent, a Mrs. Bullan:—

When my son was about fifteen he went out one evening with the men to take a wasps' nest. Soon he rushed into the drawing-room, looking like death, saying he could hardly get up to the house. He had been stung in the eyeball. There was a great commotion, and of course sal volatile was got; but one of the maids urged me so pertinaciously to put onion juice that I said:—"Get some, quick, and put it in." This she did, before he became insensible. The effect was marvellous. His colour began to return, and before long he jumped up to go and finish taking the nest. In this case there was no fear whatever. No year passes without his taking wasps' and hornets' nests, although every spring I offer rewards for every wasp and hornet brought to me. I have known other cases of faintness and violent sickness from a wasp's sting where there was no fear; but I strongly recommend the onion as always to be had. Cut a fresh one, scrape the juice, and put it on the sting. It is not often a wasp leaves its sting, but it is easily seen. Bees always leave their stings, so can but defend or offend one, which is to me one of the mysteries of nature.

\* \* \*

A SECOND correspondent adds that a raw onion should be scraped and the pulp placed on the sting. "If stung in the mouth or throat chew a piece of raw onion, and slowly swallow." Now, that these remedies, homely as they are, may possess the valuable properties and effects claimed for them, no one may be inclined to deny. There can possibly be no objection to giving them a fair trial, if need arises. The mention of a sting in the throat leads us to remark that such a form of injury is highly dangerous, from the subsequent swelling which occurs, and from the obvious danger of suffocation which ensues. If, therefore, chewing and swallowing a piece of raw onion be, as is asserted, a cure, the fact ought to be added at once to the stock of health-information which all sensible persons acquire sooner or later in the course of their experience.

\* \* \*

THE onion, it may be added, has long held a prominent place in the domestic *materia medica*. It has been credited with producing sleep like the lettuce, and it certainly possesses

valuable qualities as an anti-scorbutic or scurvy-preventive. The juice probably contains compounds whose action on the wasp-sting acts as an anodyne or pain-lessener; but it would be highly interesting to discover from a chemical analysis of the onion the exact source of its properties. The "philosophy of herbs" has yet to be written, and when even but a small part of the "virtues" of our common plants is known, we may expect to find that some highly important additions to our stock of drugs have been made. The recent discovery of the properties of the lily of the valley—alluded to in our "Notes"—illustrates this latter contention.

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WE wish to direct the attention of our readers to the letter we publish in the present issue from "Onlooker." The subject of magnesia in beer is a highly important one, and deserves the attention of the public, who are naturally interested in all that concerns the wholesomeness of food and drink.

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WE make no apology for once again referring to the distribution of quack literature in our public thoroughfares. The letter from Sheffield we publish to-day will show how effectually that town is protected against the quack-nuisance. The following letter, received by us from the Director of Public Prosecutions (in reply to our communication to the Home Secretary) will show contrariwise that London lingers behind the provinces in this matter:—

Your letter of the 23rd ult. to the Secretary of State for the Home Department has been transmitted to the Director of Public Prosecutions for his consideration, and in reply, I am to inform you that as the distribution in the public streets of the paper enclosed in your letter is not a criminal offence, the Director has not the means of preventing its being thus circulated.—I am, sir, your obedient servant,

Sept. 3, 1883.

E. A. SPARKS,

Assistant Director.

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It is refreshing, in contrast to such a confession of legal inability to cope with a public nuisance, to read the following account taken from the Irish newspapers of the 3rd inst.:—

NORTHERN DIVISIONAL COURT, DUBLIN, Sept. 1.—CIRCULATING OBSCENE LITERATURE.—Patrick Corcoran, aged 45 years, described as a labourer, was charged at the instance of a Roman Catholic clergyman with having distributed copies of a pamphlet of a most obscene and revolting character to a number of young children. From the evidence it appeared that on Friday afternoon the prisoner was observed by the rev. gentleman distributing to passers-by a number of copies of a pamphlet entitled "The Magic Mirror," published by Messrs. Wilkinson & Co., No. 4, Baker's-hill, Sheffield. The contents of the book, which was a sort of medical advertisement, were of a most disgusting and indecent character. The clergyman observed the prisoner giving the pamphlets to a number of children who were on their way home, and on ascertaining the nature of the pamphlet's contents, he at once gave him into custody. The witness said that he felt reluctant to have anything to do with the case, but felt it to be his duty, for the sake of the morals of the children, to take steps in the matter. The prisoner pleaded guilty, but added that he was unable to read, and did not know the nature of the contents of the print in question. A well-dressed man, who was sitting in court, and who gave his name as Joseph Cozen, aged 46, stated that he was from Chester, in England, and was connected with the "firm," and had employed the defendant to distribute the prints in question. Mr. Keys (to Cozen)—Did you ever read these publications yourself? Well, parts of them. Mr. Keys—I will take your admission as evidence, and fine you 40s., or one month's imprisonment. I will fine Corcoran 40s., or one month's imprisonment also. Cozen, who appeared to be perfectly amazed at the action taken by the magistrate, was then taken into custody."

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HAVING now shown what has been done in Scotland and Ireland, and what can be done in Sheffield, we shall leave



the authorities (to whom copies of these remarks will be sent) to reflect on the advisability of stemming the tide of quackery which day by day increases in volume around us. That this is a serious social subject no one will deny. It remains to be seen whether or not the authorities will add to the statute-book a law making such practices a criminal offence throughout the kingdom.

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WE can only now commend "Messrs. Wilkinson & Co., 4, Baker's-hill, Sheffield," to the watchful attention of the police of that town.

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THE question of a "night medical service" is one which has been frequently broached in the professional and lay journals. Doubtless the need for such a service may not forcibly strike us, in the face of the existence of hospitals by the score. But timeous aid in emergency is not always readily procured, and the institution in public thoroughfares and at stated points of an efficient medical and ambulance service for night-work, especially in the poorer districts, could not fail to prove highly useful. The visitor to Paris is familiar with the night medical service which is maintained in that city, and he will also recollect the little stations along the banks of the Seine where help for the half-drowned is always to be had. There is no reason why public ambulance stations should not be found at night in our streets, and the existing street waggons of the Fire Brigade might form a good model for the medical service which every city should possess.

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AN interesting correspondence regarding "reading aloud" has been carried on in the public journals for some time. As a quota to the discussion, we may be allowed to add that as a health exercise reading aloud must, like singing, rank high in the economy of the school and family circle. There is no better exercise for strengthening the chest organs than reading aloud, provided always the reader be made to stand, to keep the shoulders up, and the chest well braced back. Reading has, of course, the advantage over singing, that while comparatively few persons are able to sing, all are able to read. For children, especially, the exercise implied in reading aloud is invaluable as a means of strengthening the lungs.

+ + +

"WORKING a sewing-machine" has always formed a text for remark on the fatiguing and unhealthy nature of that exercise, in which so many are compelled, as a means of bread-winning, to participate. The latest invention connected with the sewing-machine is a new "motor" in the shape of a coiled spring, the use of which will tend to obviate the disadvantages of pedal labour. The "back-aches" of seamstresses have a reasonable prospect of abolition with such a motor at hand.

+ + +

HOSPITAL accommodation on the Continent is a topic of interest to our nation, which excels as a hospital-supporting people. In France it appears that there are 140,000 beds, giving one bed to each 269 inhabitants; Switzerland gives a bed to each 160 inhabitants, and has a total of 17,757 beds; Austria has 38,251 beds, and gives one to each 569 inhabitants; while Hesse has 1,975 beds, giving one to each 448.

+ + +

MR. CARPENTER'S electrical articles will be resumed in our next number. Extreme pressure on our space compels us to omit this week's instalment.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### THE CASE OF LOUISE LATEAU.

By M.D.

A FEW weeks ago, the daily newspapers contained reports of the death of Louise Lateau. To very many, in this country at least, the mention of the name must have awakened no curiosity; yet, in her way, Louise Lateau was a distinct personality of our time, and her name figures in the text-books of medical science as a noted example of some of the most curious bodily and mental associations which it has been the lot of the physiologist to study. A few years ago, much interest was excited in this and other countries, but especially in Belgium, by the announcement that a girl had exhibited wonderful powers of fasting, and that sundry other features in her case appeared to bring it, in the opinion of certain observers, at least, within the domain of the miraculous itself. Very recently, the editor of *HEALTH* published in these pages an interesting *résumé* of the "miracle cures" and "faith-healings" which are practised at our very doors. In the course of these articles, it was shown how such cases lie as completely within the explanation of modern medicine and physiology, as do the functions of the heart or the working of the lungs. Only ignorance and credulity can rest satisfied with an appeal to the miraculous, when science appears on the scene with a plain explanation of what is mysterious or apparently inexplicable. The investigation of such incidents in the history of human ways and works, does not involve any considerations of a religious kind. There are no real religious interests involved in the examination of a case of supposed "miracle cure," any more than are included in the investigation of a case of brain-disorder or of eye-disease. It is only the foolish and credulous, or the designing, who can dare to make "religious" capital out of the weaknesses or the diseases of humanity. It is needless to add that the best interests of religion really demand the full and free examination of all such cases, if only on the ground that it is the duty of medical science to render aid, advice, and, if possible, consolation, in the relief of suffering and the cure of pain.

Louise Lateau was born in the village of Bois d'Haine, near Mons, in Belgium, in 1850. Her father was a miner. He died of small-pox when Louise was a week old. The child contracted the disease, recovering from it only to pass into a weakly childhood, which appeared to be the natural consequence of an originally feeble and debilitated constitution. The fact of the girl's weakly state becomes an important one when the details of her history are more fully investigated. Beginning life thus in a somewhat abnormal state, it is not surprising to discover that this primary weakness asserted itself through mind and body, and that in a somewhat remarkable fashion, as we shall presently see. When Louise Lateau attained the age of 17, her symptoms became much aggravated. By all accounts, she was in danger of falling into a decline. Whether this "decline" was a veritable feature in her physical history or not, may be judged from the fact that, on attending church during 1868, on Good Friday, and receiving the sacrament, she became suddenly cured of her wasting disease. It was at this stage of matters, also, that Louise Lateau began to exhibit those symptoms or appearances which gained for her a more than local celebrity and fame.

These symptoms certainly presented a most remarkable



character, equally to the physiologist and the ordinary observer. Wounds appeared spontaneously on the left side, the front and back of each hand, the upper surface of her feet, while a row of small bleeding points in due time formed on the forehead. These marks, which resembled the "stigmata" or imprints of the Passion, bled every Friday. The mark in the side was the first to exhibit this peculiarity; the other bleeding spots having established themselves a few months later. Each Friday also, Louise Lateau fell into fits of "ecstasy." These fits began about 8 or 9 a.m., and ended about 6 p.m., and are described as having interrupted her when engaged in prayer, in conversation, or in ordinary manual occupations. During the progress of these weekly "ecstasies" a series of "visions" appeared to this girl; while it was asserted that from 1868 till the period of her death, Louise Lateau had ceased to take or to require food. To the reputation of being endowed with special marks of Divine favour, in the shape of the "stigmata" or bleeding points, she thus had added the miraculous power of being enabled to exist without food. The case of the "Welsh Fasting Girl" amongst ourselves, was thus paralleled in highly significant fashion in Belgium.

Of the ecstatic fits to which Louise Lateau was subject, she retained a vivid impression, and was thus able to recount to her hearers the visions she had seen. She described how at first she felt as if she had been suddenly plunged into a vast flood of light and effulgence. From amidst the brightness, the forms of men and things were gradually evolved. The scenes of the Passion were thus displayed before her mental gaze, and she was able to give a minute description of all the details connected with the event in question. The observer was able to trace the progress of the vision by the various actions performed by the girl. At 3 p.m. she regularly extended her limbs in the form of a cross. The fit ended in a state of high prostration. Her pulse was described as low and feeble; the breathing was weak; and the whole surface of the body was bathed in a cold perspiration. After a continuance of this state for a few minutes she gradually recovered her wonted condition.

Of such a case it was not surprising that much should be made by the credulous, or by those who, ignoring the existence of any scientific side or aspect to the facts, should regard them as testifying to some miraculous revelation of superhuman and divine nature. As a matter of fact, Louise Lateau became regarded as a sacred personage. Her dwelling-place became a kind of shrine. Her cottage was guarded by priests and by ecclesiastical authority; for admission thereto could only be had by permission of the curé of Bois d'Haine, and visitors were scrupulously scrutinised, and the purport of their mission criticised before the "patient" could be seen. As regards the facts of the bleeding-points in the skin-surface there seems no reason to question the veracity of the statements which assert their existence and their periodical discharge. But there can be no hesitation, of course, on the part of all sensible persons in rejecting the stories of the miraculous fasting of Louise Lateau. The only testimony forthcoming in support of this latter feature of the case is that of a professor connected with the Catholic University of Louvain. And as this gentleman's evidence only amounted to the declaration that Louise Lateau never ate in his presence, his testimony left the question of her "fasting" exactly where common sense and science would alike allow it to remain.

Louise Lateau thus became a personage of note. She was taken, as we have seen, under the direct patronage of her Church. Crowds visited the "Stigmatisée," and even

medical journals were found to debate her claims to be regarded as above the rank both of an impostor and of a scientific phenomenon, with a warmth which, as has been lately remarked, did not seem warranted under the circumstances. No independent scientific examination of her case was permitted, and the girl was allowed to remain as an object of superstitious—and we will add, with all due respect to the convictions of her admirers and devotees, of ignorant—devotion. The death of Louise Lateau, however, once again brings her case to mind. The scientific explanation thereof is found, as is that of many other mysterious cases, in the parallelism which can be drawn between the facts of ordinary physiology and those of disease. Louise Lateau was simply a weak, hysterical girl, in whose case "a dominant idea"—that of the Passion and its events—ruled all else out of her life, and affected, as strong mental impulses are known to affect, the physical structure of the body. The blood circulation seems specially liable to be affected by the mental state. We know of a case in which, under strong mental excitement, a person's skin on the right shoulder and neck becomes of a violent red hue. In another case, the skin of the forehead, under agitation of mind, becomes almost livid. Carried a step further, such a feature might be followed by the straining of blood through the skin-pores, although in such a case, of course, no miraculous result would be inferred.

In the case of Louise Lateau, then, we once again see the effects of a strong mental idea acting upon the body, and directed in harmony with the ruling thoughts of the patient. An incident, which to our mind is quite as curious as the case of this Belgian girl, is related by Carter in his "Pathology and Treatment of Hysteria." A lady saw a window-sash fall on the hand of her child and cut off three of the fingers. A surgeon having dressed the wounds, had his attention directed to the mother, who sat moaning and complaining of pain in her hand, which had, of course, been uninjured, and in which, prior to the child's accident, no pain had existed. On the hand being examined, *three fingers, corresponding to those injured in the child, were found to be swollen and inflamed.* In due course, these fingers suppurated, were incised, and the wounds ultimately healed. Here, as in the case of Louise Lateau, a "dominant idea" was propagated from mind to body, and wrought out in the personal history of the patient effects which, had their origin been unknown, would have undoubtedly been referred to the operation of disease.

## HYDROPHOBIA: ITS NATURE, CAUSES, AND TREATMENT.

BY DR. ANDREW WILSON, F.R.S.E.

### THIRD PAPER.

By way of comparison with rabies in the dog, the symptoms of hydrophobia in man may be briefly detailed. Here the application of the term "hydrophobia" is in the main correct enough, for the human patient has a very distinct horror of fluids. After a period of larger or shorter duration—to be more particularly referred to presently—and which may be denominated the period of "incubation," the person who has been bitten by the rabid dog exhibits symptoms of mental and general nervous irritability. After a lapse of one, two, or three days marked by these symptoms, true or active indications of hydrophobia begin to appear. Fever is present, there is difficulty of respiration, and spasmodic twitchings of the jaw-muscles, a horror of liquids, and a complete inability, notwithstanding extreme eagerness, to swallow fluids, are notable



symptoms. The slightest sound or touch excites the patient; mental aberration and delirium supervene; general paralysis usually accompanies the delirium; and, after an increased aggravation of all of these symptoms, death occurs as a welcome termination to an existence embittered almost beyond description. Death may occur within twenty-four hours after the appearance of the more active symptoms; but a fatal issue may be delayed until the second or third day. Sometimes, however, death may be preceded by a period of comparative repose, life ending in such cases without a struggle.

One of the most unaccountable features of this disorder has long been recognised in the varying periods of incubation, which intervene between the reception of the poison of hydrophobia and the manifestation of the symptoms of the disorder. The fact is one of the best known regarding the disease, and it is not without its due and often serious effect on the popular mind. For, as may readily be supposed, a person once bitten by a dog which has been rightly or wrongly supposed to have been rabid is regarded, through the belief in a long period of incubation or latency of the disease, as a doomed man. With a sure and fixed idea regarding the eventual appearance of the symptoms, and with the knowledge that the disease *may* manifest itself after the lapse of a long interval between the bite and the occurrence of active symptoms, the unfortunate individual may be said to live with a veritable sword of Damocles suspended over his head. As we shall afterwards note, a person who has been bitten by a hydrophobic dog is by no means to be regarded as a patient either certain of death or hopeless of cure. And one very important effect of the common belief, in the invariable occurrence of hydrophobia after the bite of a rabid dog, is that of inducing a nervous horror of the disease, and of inciting a mental state which unquestionably predisposes to the exhibition of its symptoms. A belief no less erroneous and injurious than the preceding is that which maintains that a person bitten by a perfectly healthy dog will become hydrophobic if the dog should subsequently become rabid. That this belief is absolutely without foundation is a conclusion which can be readily arrived at from the exercise of a little common sense, apart from scientific knowledge. Cases in which the bite of a dog, alleged to have been perfectly healthy, has produced symptoms of hydrophobia, will probably be found to present evidence that the dog has not been wholly free from indications of canine madness. Indeed, as every investigator into this matter well knows, even a case which at first presents him with the plainest record of circumstances, will be found on closer examination to require both time and trouble to procure exact evidence of the state of the dog—that is, evidence which will satisfy the demand for accuracy on the part of the scientific observer.

The fact, however, that a longer or shorter period of inactivity of the poisonous principle, or a period of “incubation,” as we have termed it, intervenes between the bite and the occurrence of active symptoms of hydrophobia, is indicative of the specific nature of the disease. In all disorders arising from the exhibition and development of a special poison within the living body, a latent period occurs. During this period the virus may be supposed to develop its strength and characteristic properties. Assuming that the poisonous material is analogous in its nature—as most physicians now regard the *materies morbi* of specific diseases to be—to low forms of animal or plant life, we may readily explain the occurrence of a period of incubation by a reference to the phenomenon of development, and by supposing that the specific organisms contained within

the poison, require a certain period to accommodate themselves to their surroundings. A drop of yeast introduced into a sugary solution contains a few *torulæ* or yeast-plants. After an interval, the action of fermentation begins within the solution; and we explain the interval that elapses and the ensuing and characteristic action that commences, by saying that the original and introduced *torulæ* have been developing others in immense numbers, and that only when enough yeast-plants have been produced does the fermentative action begin to be plainly exhibited. When a minute quantity of vaccine matter is introduced on the point of the physician's lancet through an abrasion of the skin into the blood-circulation of the infant, a latent period ensues. For hours no alteration beyond a certain redness of the arm can be detected. But by-and-by, the indications of the mild fever which is to protect the child against the more formidable small-pox, begin to be both locally and constitutionally manifested. The seat of the operation exhibits indications of a very characteristic action, whilst the constitution generally participates in, and sympathises with, the effects which at first were locally produced. In this latter case, as in that of the production of fermentation by yeast, we assume that the minute particles of the vaccine matter, like living organisms, required time to accommodate themselves to their new surroundings within the body, and that when they had become sufficiently developed, their characteristic effects were made apparent.

In the light of such knowledge, we can readily imagine that the poison of rabies, when introduced into the blood-circulation of man in the saliva of the dog, requires a longer or shorter period—the period of incubation—for the full development of its powers, and for the exhibition of active indications of its presence. The periods of incubation which the hydrophobic poison appears to exhibit vary from a few days to one, two, or three months. But the most notable point regarding the case before us, as already remarked, consists in the *varying duration of the periods of incubation* through which the virus may pass both in the case of man and of the dog. A case is known in which a rabid dog bit several members of his pack. Six of the bitten dogs developed rabies. They were all bitten on June 8, but they sickened and became “mad” after 23, 56, 67, 81, 155, and 183 days respectively. Exceptional cases, on the side of shortness of the period of incubation, are recorded, in which active symptoms set in on the eighth day after the injury. On the side of prolonged periods of incubation there are well-authenticated cases which show that symptoms of the disorder may intervene after four, five, seven, and even twelve years. Dr. Bardoley, in “Medical Reports of Cases and Experiments” (London, 1807), relates a case in which, apparently, the last-named period intervened between the bite and the appearance of symptoms of hydrophobia. Mr. Hawkins tells us that out of 130 cases, five-sixths developed the disease between eighteen days and three months. From the *Lancet* we glean particulars of a very instructive case, communicated by Mr. Rigden, of Canterbury, in which two patients were bitten at the same time by a rabid cat—this animal having been infected through the bite of a rabid dog. The symptoms in the one patient occurred two weeks before they appeared in the other, notwithstanding the correspondence in the date of the infection. In the *Lancet* for 1829, a Dr. Elliotson relates that two little girls were bitten at the same time and by the same dog. The child who was the second to be attacked by the animal became hydrophobic and died. Her sister experienced all the premonitory symptoms at the same time, but recovered completely.



Of 21 persons who were bitten by a rabid dog, according to John Hunter's account, only one suffered from hydrophobia; and of 17 persons who were bitten by a mad wolf, 10 died. In another case, of similar nature to the last, in which 23 were bitten, 13 died. Sir William Gull had a case, in which hydrophobia supervened after a five years' period of incubation. A person bitten by a dog became hydrophobic seven years afterwards; for 25 months before his seizure he was confined in jail as an ordinary prisoner. He had a well-marked scar as the result of the bite. With regard to the general period of incubation, statistics show, as has just been noted, that the normal length of the period in man extends at most to a few weeks. Eighteen days may be deemed a short, and three months an extended period of incubation, judging the length of this period by a normal standard. Records of experimentation on dogs support the idea that the latent stage is by no means of long duration. M. Renault published in 1862 the results of a series of experiments, in which dogs were infected with rabies through exposure to the bite of animals suffering from the malady; 131 dogs in these experiments being bitten by rabid dogs, or inoculated with the saliva of their rabid companions. Of this number, 63 exhibited no symptoms whatever at the end of four months. In the remaining 68 rabies appeared. The shortest interval between the period of infection and the occurrence of active symptoms was five days, the longest interval being 120 days. In 25 of the 68 dogs, rabies set in between the 5th and 30th day, in 31 dogs between the 30th and 60th day, in seven between the 60th and 90th day, and in five between the 90th and 120th day. Thus a period of latency extending from the 30th to the 60th day was by these experiments shown to be that which was most frequently represented in the dog. Other observations show like variations in this period in the case of the dog.

(To be continued.)

**SALAD-DRESSING FOR AN ORDINARY SALAD DISH.**—Take the yolk of one hard-boiled egg, and, after mashing well with a spoon, stir in five teaspoonfuls of water; to make it of a rich creamy thickness, add a heaped saltspoonful of salt and half a spoonful of red pepper. Have ready one heaped teaspoonful of raw mustard, mixed with five teaspoonfuls of water; stir this into the egg; then, with a fork, stir in four tablespoonsful of oil and one of vinegar.

**PENWIPER.**—A writer in a German paper states that it is the custom in offices in that country to have a sliced potato on the desk for use as a penwiper, and to clean steel pens. It removes all ink-crusts, and gives a peculiar smooth flow to the ink. New pens should be passed two or three times through the gas flame to remove the grease with which they are coated before packing. The ink will then flow freely.

**MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.**—**DIABETES.** VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—**DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION.** VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphate of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]

## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### CARBOLIC ACID IN THE CARE OF THE MOUTH, AND IN THE LESSENING OF PAIN.

DR. SQUIBB says:—"Carbolic acid and like compounds with which it is associated are all very effective local anæsthetics,\* and this therapeutic relation is far too much overlooked or neglected. A paper by Dr. J. H. Bill, of the United States Army, published in the *American Journal of Medical Sciences* for 1870, page 573, first drew attention strongly to this point, and every one who has handled the acid much has amply confirmed Dr. Bill's experience, and yet the matter has been but imperfectly followed up. Even its application to the pain of burns, erysipelas, and other superficial affections, though often insisted upon, is not generally adopted, and when adopted, it is rarely in the best way. The writer knows from personal experience, and from extensive practice in his laboratory, where burns and scalds are not unfrequent, that a solution containing from one-half to one per cent., applied by means of thin cloths, frequently renewed, will relieve the pain of burns within ten minutes; and the relief will be permanent if the application be continued during the twenty-four or forty-eight hours of primary irritation. Under such dressing, the burns, if superficial, will not suppurate, and if deeper, the suppuration will be greatly diminished and modified. If the solution be applied too strong, it will at first increase the pain for a very short time; but the after effects are less favourable, as the irritation of too much of the acid increases the tendency to suppuration. A simple rule for guidance is that the renewal of the application should not cause smarting or renewal of the pain. The anæsthetic effect upon the acute suffering of burns and scalds is very remarkable. A 5 per cent. solution of this liquefied acid is a very convenient preparation to keep in readiness for making the more dilute solutions needed for burns, erysipelas, &c., and for such uses as protecting hypodermic solutions. One-twentieth of such a solution is quite sufficient to prevent the growth of the microscopic fungi in any preparation which needs protecting. It is simply to be added in making up the preparation to the required measure. A piece of paper moistened with a few drops of such a solution and kept in extract-pots, &c., will prevent the growth of mould. Such a solution diluted so as to be no stronger than 1 per cent., nor weaker than about  $\frac{1}{2}$  per cent., makes an excellent tooth and mouth wash for use in the morning. Habitually used, it in some degree checks the deposition of "tartar" on the teeth, keeps the tooth-brush sweet and clean, and there is nothing that leaves the mucous surfaces in so clean and pleasant a condition for the first meal of the day. A bottle of the 5 per cent. solution may be placed upon the washstand, and a couple of teaspoonfuls poured into the mug, diluted with four or five times as much water, stirred with the tooth-brush, and then used upon the brush; the mouth being finally rinsed out with the remainder of the dilution. This is a very good habit, which has been followed by the writer and many others for many years with advantage.

\* The term "anæsthetic" is applied to those substances which are capable of annihilating sensation and destroying pain. The best known anæsthetic is chloroform, while ether and other substances discharge a like function.



## MALT LIQUORS AS ARTICLES OF DIET.

By PHILIP FOSTER, M.D.

(Author of "Alcohol: its Nature and Action.")

Our national drink, beer, is not always the product exclusively of malt and hops; for quassia, gentian, and other cheap bitters are not unfrequently substituted for the hop; a little salt is usually added, and sometimes sugar. Recent analyses encourage the hope that the use of narcotic poisons in brewing, common enough at one time, has been abandoned.

Pale ales—the best makes at least—are prepared from the finest high-dried malt and the choicest hops, the bitter being in excess.

Mild ales are usually—although the name would hardly lead one to suppose so—of greater alcoholic strength than the bitter.

Porter, as drunk in London, differs principally from ale in its colour and flavour, which are produced with roasted malt, and in being less intoxicating.

Bavarian beer is fermented at a low temperature, only slightly bittered, has a fine aroma, and a peculiar flavour, said to be due to the solution of a little of the resinous material used to caulk the casks.

The distinguishing characteristic of malt liquors as articles of diet is their feeding-power, and they owe this to the presence in the malt of diastase, by which the insoluble and innutritious starch—the largest fat and heat-producing element in our food—is converted into the soluble and easily assimilable glucose sugar. The use of these beverages, then, in moderation—say two glasses a day, one at dinner and the other at supper—seems to be indicated, and would probably prove advantageous, in convalescence from wasting disease, extreme thinness, feeble digestion, or where there is difficulty in maintaining the animal heat.

Ptyalin, the active principle of the saliva or juice of the mouth, is identical in chemical composition with diastase, and has been supplied to us by nature for the purpose of effecting this necessary change of starch into sugar. How destructive to health, then, must the habits of bolting our food and smoking be; by the one the food passes into the stomach unmixed with and unacted upon by the saliva, while by the other large quantities of this valuable fluid are lost.

The following table, showing the composition and relative strength of representative malt liquors, may not be uninteresting to the reader:—

	Malt Extract.	Alcohol.	Carbonic Acid.	Water.
Burton ale .....	14.5	5.9	0	79.6
Edinburgh ale .....	10.9	8.5	0.15	80.45
Porter (Barclay & Perkins) ...	6.0	5.4	0.16	88.44
Bavarian beer .....	5.8	3.8	0.14	90.26

Malt Extract has lately been brought into the market, and may be used where alcohol is for any reason considered undesirable.

**AN EXPENSIVE DRUG.**—The most expensive drug in the market at present is ergotin, the German preparation of which costs 200 marks (£10) a gramme (15 grs.), while a milligramme (1.70 gr.) of the French preparation in solution costs 1½ marks (1s. 6d.).

**BIEDERT'S CREAM MIXTURE.**—This mixture as a substitute for mothers' milk is highly praised—Martin saying that while it is cheaper than a wet-nurse it is also better. The following is the formula for the No. 1 mixture:—One-eighth of a litre of cream, three-eighths of a litre of boiled water, and fifteen grammes milk sugar.

## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

## NO. XVI.—HOW BONES GROW.

By A. J. MANSON.

To realise fully and completely how bones *grow*, we must know, in the first place, what bones *are*. In our last paper we saw that a bone is a living structure, which grows, is nourished by blood, and which contains living matter similar to that found in the other tissues of the body. In that article we also alluded to the *chemical composition* of bone, and to this latter point we may now direct attention. Bone has been shown to consist of an *animal* part and a *mineral* part. The former is composed chiefly of *gelatin*. It is this substance which the cook boils out of a bone when she uses it to form the basis of soup. Water we noted in one of our earlier articles to enter into all the tissues of the body. Bone is no exception to this rule. It contains a very small quantity of water, and its solid parts consist, roughly speaking, of about one-third animal matter and two-thirds minerals.

If a bone is analysed, the following is the general result for dried compact bone:—

	In 100 parts.
Organic matter (gelatin, &c.) .....	33.30
Phosphate of lime .....	51.04
Carbonate of lime (or chalk) .....	11.30
Minerals { Fluoride of lime .....	2.00
Phosphate of magnesia .....	1.16
Compounds of sodium .....	1.20

It is very interesting to note that bones vary in composition in the same body. The temporal bone of the skull, for instance, appears to contain more mineral matter than the other bones, and this fact probably accounts for the extremely hard nature of that bone. The limb-bones, as a rule, also contain a larger proportion of mineral matters than do those of the trunk. Of the limb-bones, the humerus or upper arm-bone and the thigh-bone in turn contain more minerals than the bones of the fore-arm and the leg. The ilium, one of the bones of the haunch (see HEALTH, No. 10, page 152), contains a larger proportion of mineral matter than the shoulder-blade.

A very interesting observation has been made regarding the difference in the composition of bone which is found at different ages. The thigh-bone before birth, for example, contains a larger amount of organic matter than at birth; but thereafter this matter remains almost constant in amount even to old age. Thus at birth there was found about 35.2 per cent. of organic matter in the bone; at 22 years of age analysis showed 35.4 per cent.; at 80 years of age, 35.4; and at 97 years of age, 35.1. As age advances the bones, as most readers know, become more and more brittle. The bones of an old person are popularly—and with reason—believed to be more readily broken than in youth. Possibly this results from changes which happen to the substance of the bone, whereby the organic

"How to Obtain Light from Coal Gas," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be *heated* before being consumed."—[ADVT.]



matter becomes absorbed, and whereby limy degeneration sets in—as, indeed, is the case with the other tissues of the body. An interesting experiment, whereby the chemical composition of a bone may be shown, is that of placing the bone in a weak acid for some time. The acid dissolves out the minerals of the bone, but does not affect the gelatin or organic part. Hence, whilst the bone still retains its shape, it becomes perfectly flexible after soaking in the acid, through the removal of the mineral parts which gave to it its hardness and strength.

That bones grow, like all other parts of the human frame, is, of course, an every-day fact. But it becomes important to trace the actual manner in which bone is formed. The bony matter, we see even in early life, is preceded by material of another kind. For example, the long bones of the body, such as those of the limbs, are formed from *cartilage* or *gristle*. The flat bones, such as the skull bones, those of the face, and the shoulder-blades, grow in a kind of membrane named *fibrous tissue*. Thus we find that a long bone is first of all really modelled out, so to speak, in gristle; but it is not correct to suppose that bone-formation is merely a process wherein the cartilage is converted into lime. On the contrary, the work of bone-forming is of more complex kind. The *cells* (see HEALTH, No. 4, pp. 54 and 55) or minute bodies of which the gristle is composed begin to collect in parallel rows when bone-formation is about to begin. Then the matter which lies between the cells becomes of limy nature, and spaces form in the gristle. These spaces are soon occupied by bloodvessels which run into the developing bone from the outside layer of the bone; and the spaces themselves become lined with new cells. Some of these latter cells, in time, become the marrow cells of the bone, whilst others appear to develop the bone itself. As time passes, these cells give rise to the dense layers of which the bone consists, and the living matter (or *protoplasm*) they originally contained comes in due time to represent that found in the lakes (or *lacunæ*) of the living bone, as described and illustrated in our last paper. The spaces, already mentioned, are in their turn converted into the *Haversian canals* of the bone, through which, as we have seen (see HEALTH, No. 20, p. 313), the bloodvessels of the bone pass.

We thus see that bone is formed through a somewhat intricate process, wherein the production of new cells and structures is witnessed, and wherein the original material—gristle and cartilage—is slowly converted into bony tissue. When a bone has been fully outlined, its growth does not thereby cease. The bone has to increase in size as life progresses from its early days and weeks towards adult existence. Indeed, there are certain parts of the skeleton which are not fully completed until life has advanced a considerable way, even to the twenty-fifth year. Bones increase in length, not all through their substance, but by the conversion into bone of the plate of cartilage or gristle which separates the *shaft* or column of the bone from its end. When this plate of gristle has become fully converted into bone, the growth of the bone in length may be said to be at an end.

Bones grow in thickness as well as in length. As we saw in our last article (HEALTH, page 312), the living bone is covered by a tough fibrous membrane, called the *periosteum*. In 1739, Duhamel, a French naturalist, thought that bones grew from this outer layer, as a tree might be conceived to grow from its bark. Belchier had, previously to this, shown the curious fact that if madder is mixed with the food of young pigs, the parts of their bones which grow during this period become stained red with that dye. Duhamel, in repeating this experiment, found that a ring

of bone which was stained of a red hue appeared *beneath the periosteum*, a layer covering the growing bone. It became clear, therefore, that the coloured bone had not only been produced during the administration of the dye, but had been formed by the outside layer of the bone.

Further investigation showed also that the madder showed very completely the process of growth in the bone at large. For the ends of the shaft of the bone were so coloured, showing that growth in length took place therein. Around each Haversian canal in the bony substance itself the dye was also found, proving that the inner growth of the bone took place throughout its substance. Professor Syme further showed that if a plate of silver be placed between the bone and its outside layer (or “periosteum”) a layer of bone is produced on the outer surface of the silver, showing that the inner side of the bone-covering forms bone. As we showed last week, the practical importance of this discovery becomes apparent when we reflect that cases of bone-disease are now successfully treated by merely removing the dead bone and allowing the outer covering of the bone to produce new bone in place of the old. Lastly, Ollier, in 1867, proved that this curious layer (or “periosteum”) has still more peculiar bone-forming qualities. He showed, by experiment, that it will produce bony matter even when it has been removed from off the bone itself and placed beneath the skin. The power of forming bone, in fact, which this membrane possesses seems to be scarcely limited by any circumstances, however disadvantageous, amidst which it may be placed.

We have thus concluded the history of the bony framework and general build of the body. The muscles, joints, and general mechanics of the body will next receive our attention.

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“CRAMP,” or “muscular spasm,” is a very annoying affection, as many persons know to their cost. Such sufferers should adopt the advice of a correspondent of one of the medical journals, and try the effect of a small dose of bichloride of soda during the attack.

PERSISTENT HICCUGH.—In the *Lancet* of March 3, Dr. Slade King mentions having tried “a three ounce dose of strong infusion of mustard seed, followed in two hours by two-drachm doses of pure glycerin, taken every three hours.” He also rubbed in warm laudanum and chloroform along the course of the phrenic nerve. He also refers to the skin-injection of morphia, a hot spinal compress, and to a spinal ice bag. Mr. Lea refers to a case where it was found to be the initial symptom of cancer of stomach. Mr. Walker praises the following treatment:—Hyosciamine and arseniate of strychnine aa  $\frac{1}{120}$  gr.; bromhydrate of cicutine  $\frac{1}{60}$  gr.; to be taken every half-hour in Chanteaud granules till relieved. Mr. Hawkins quotes a case in a subject of heart disease treated successfully by  $\frac{1}{4}$  gr. morph., acetat., by skin injection, followed next morning by a lavement with cold water, together with aloes and gentian pill. M. B. Aberd. recommends inhalation of ether, and the following prescription:—

R. Ether sulph., half a drachm or one drachm,  
Vin. ipecac., half a drachm,  
T. digitalis, half a drachm or one drachm,  
Mag. sulph., two drachms; Aq. chloroform to make up six ounces.

Two tablespoonfuls every four hours. Dr. Corney recommends infusion of mustard, a teaspoonful in 4 oz. of boiling water; drain, and drink when cool, at a draught. He suggests nitrite of amyl. Dr. de la Motte recommends the inhalation of chloroform.



## The Family Circle

"The child is father of the man."—*Wordsworth.*

"In bringing up a child, think of its old age."—*Joubert.*

### NURSERY IN RELATION TO HEALTH.

#### THIRD PAPER.

By T. GOODALL NASMYTH, M.B.

#### DIET AND MEDICINE.

If I gave any priority in importance to any one of the various subjects under discussion in these papers, I should say that the Diet of Infants and Children was the one to be chosen, as there can be no doubt that this plays a most important rôle in the production of disease or the maintenance of health. There is only one answer to the question, What is the proper food for infants?—and that is, the food supplied by the mother; and in cases where this is not expedient or possible, the food supplied by other mammals must be substituted. I hold it a duty that every mother should nurse her own child, unless from some satisfactory reason other than mere fashion; and when this duty is performed by the mother, it will be found to be beneficial to herself, much more convenient, and attended with less danger to the infant. Hand-feeding of infants has often to be resorted to, but there is great difficulty and much danger in the process, for reasons which I will afterwards mention. Dr. West, one of the greatest writers on the diseases of infants, says, in reference to children not brought up by the natural method: "The infant whose mother refuses to perform towards it a mother's part, is deprived of the food that nature destined for it—too often languishes and dies. Such children you often see, with no fat to give plumpness to their limbs, their face wearing in infancy the lineaments of age, their voice a constant wail, their whole aspect an embodiment of woe; but give to such children the food that Nature destined for them, the mournful cry will cease, the face will assume a look of content, the limbs will grow sound, and when, at length, we hear the merry laugh of babyhood, it seems almost as if the little sufferer of some weeks before must have been a changeling, and this the real baby brought back from fairyland."

These words, coming from such an authority as Dr. West, should leave a due impression on the minds of readers, and it is to be hoped with a beneficial result. It is a duty to her helpless charge, a duty to herself, and a duty to the State, that every mother should nurse her infant, unless, from some reason, her medical attendant has advised to the contrary. There are frequently reasons, however, that preclude the possibility of the infant being nourished by its mother, and then we have to depend on a supply of milk from some other animal, the cow being the handiest, and for all purposes the best. Occasionally the milk of goats or asses is used. Some people lay considerable stress on having milk from one cow, but I do not think this is of so much consequence; but in cases where mixed cows' milk does not agree with the child, one cow's milk may be tried. There is not much need in a paper like this of entering into a minute chemical discussion about milk, but I shall give a table from Pavey's work on Diet, showing the composition of cow's milk:—

#### COMPOSITION OF COW'S MILK.

Nitrogenous matter .....	4.1
Fatty matter .....	3.9
Lactine .....	5.2
Saline matter .....	0.8
Water .....	86.0
	100.0

It will be seen that in cow's milk there is 86 per cent. of water, and 14 per cent. of solid matter. The milk of the cow most closely resembles that of woman, but it contains more solid matter. Goat's milk approximates closely also, but is richer. Ass's milk is recommended, but there are many difficulties in obtaining a regular supply of this.

The various ways of using cow's milk as a food for infants are, of course, familiar to all who have the care of upbringing them, but certain hints may not be out of place about this important subject.

Cow's milk is too strong for very young infants, and so it must be diluted with water, or with lime-water. To begin with, it is as well to use plain water, and about equal quantities of milk and water should be used for at least the first month or two, and after that a third of water should only be added. Some people add a little sugar and a little salt, cow's milk being deficient in them; and I think this a good addition.

Regarding the method of feeding, the plan that most resembles the natural must serve as our guide, and now-a-days we have an infinite variety of feeding-bottles, one of the best being supplied by Savory & Moore, of London. However near perfection a bottle may be, still, from its construction, it is liable to become a source of disease. Thus the india-rubber portions are liable to absorb milk, or in a small crack in the material a small quantity may adhere, and undergo fermentation; and the best-directed efforts to keep the tubing clean may not prevent this happening. In the glass part this does not occur readily, as it can be thoroughly cleansed, and there is no risk of absorption in it.

Two bottles are usually required, one to be in operation while the other one is being cleaned. The manner most likely to prevent bad consequences is to thoroughly wash out the bottle after it has been used in tepid water, and then again wash it with water and soda, then thoroughly dry bottle and tubing, and put them in the open air, as on a window-sill, where they can have both sun and air. Of course, the stopper should be out of the bottle. Another method is to allow the bottle to remain in lime-water till next it requires to be used. In cleaning out the tube a brush attached to a strong wire is needed. I have dwelt for a long time on the subject of bottles, and the methods for cleaning them, for unless the latter is attended to dire results happen; and these have always to be guarded against in bottle-fed infants. A small particle of milk in a state of fermentation may produce both distressing and dangerous symptoms. Those it is not my intention to discuss now, but simply mention as examples—thrush, vomiting, diarrhoea, &c.

No farinaceous food, such as arrowroot, rice, sago, or bread of any kind should be given to infants, or until they are eight or ten months old, as they cannot digest such articles of diet before that age. Saliva is necessary for the solution of starchy foods, and it is not secreted till the child is the above age. This should be a law of the nursery, and not to be broken on any consideration. Mothers will say that the child is being starved for want of solid food, or that they have brought up fine healthy children on such articles of diet, but doctors can tell that it was a great risk using such indigestible things, and that disease is a very common result of such improper dieting. When the child has teeth, then those articles come to be useful, and may be given with benefit. I have now come to a period, when with more safety the child may be left to the

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care of the mother or nurse, and limits of space prevent me discussing the subject further. I shall conclude by giving a few suggestions about the medicines useful in the nursery.

In an emergency, when no doctor can be had, a few medicines kept in the nursery will be useful, and even for the doctor's use when he does come; but I do not advise amateur doctoring, such practice being decidedly unsafe. A little knowledge is said to be a dangerous thing. No knowledge must certainly be worse, and a thorough knowledge is needed of children's diseases to admit of proper treatment. The medicines kept should be under lock and key for obvious reasons, and the following might be found useful:—Ipecacuanha wine and powder, say of the former two ounces, and of the latter one drachm; grey powder, one drachm; castor oil, six ounces; antimonial wine, one ounce; sulphate of zinc, one drachm; fluid magnesia, six ounces; lime-water may be kept by the gallon if the infant is brought up on the bottle; laudanum or solution of morphia, one ounce; Bow's liniment, one bottle, or camphor liniment; Spongio-Piline is a very useful thing to have for the application of fomentations or as a poultice. Lint, oiled silk, and gutta-percha tissue, with a quantity, say six ounces, of carbolic lotion, strength 1 to 40, will complete my list. Of course, those that are marked "Poison" must be observed as such by any one other than the medical attendant, and amateur doctors should restrict themselves to giving a dose of castor-oil or fluid magnesia, or, in such an emergency as croup, an emetic of ipecacuanha wine.

My object up to this time has been to direct attention to the methods which are intended to prevent disease. Perfect compliance with all the known laws of health would render the use of medicine much rarer than it commonly is. Preventive medicine is the science of to-day.

INTELLIGENT sanitary inspection is the right arm of preventive medicine. It is the exercise of that knowledge which comprehends the importance of pure air, pure water, pure food, and a pure soil; and all the conditions likely to render impure these prime necessities to the maintenance of health.

HYGIENIC INSTRUCTION IN SCHOOLS.—At the recent Congress of School Teachers, held at Bremen, Dr. Max Scholz read an interesting paper dealing with the connection which exists between the culture of a nation and its practical application of hygienic laws. From this principle he deduces the argument that hygienic instruction should be given in schools in connection with physics. The principal branches of such a course would be the solubility of air and water, the necessity of ventilation, the causes of infectious diseases, the necessity of personal cleanliness, &c. He controverts the doctrine that hygienic measures are only capable of being carried out by the wealthier classes, and attributes the excessive prevalence of epidemic disease in country districts as compared with towns, to the want of a proper appreciation of hygienic principles. In conclusion, he recommended for adoption the following resolutions:—(1) That hygienic instruction should be obligatory in the people's schools. (2) That it should be treated as a branch of physics. (3) That the detailed portions of hygienic teaching, such as the anatomy and physiology of the body, should be taught in these schools only in the closest relation to practical hygienic purposes. (4) That in the higher-class schools, or seminaries, hygienic instruction should also be an obligatory subject, but should be taught upon systematic and technical principles.

## Healthy Houses

"A happy home must be a healthy home."—Anon.

### ARTIZANS' DWELLINGS ACTS.

THE following is the text of a circular sent to Vestries and District Boards by the Local Government Board:—  
SIR,—I am directed by the Local Government Board to advert to the Memorandum prepared by their Medical Officer on the precautions to be taken against cholera, copies of which the Board recently forwarded to the Vestries and District Boards in the Metropolis.

In that Memorandum attention was called to the importance of certain measures being taken with regard to water supply, the removal of refuse, and the cleansing of dwellings, and particularly of such dwellings as are densely occupied. In connection with this subject the Board are desirous of referring to the special powers conferred upon the vestries and district boards by the Artizans' Dwellings Acts, 1868 to 1882, under which they are empowered to deal with dwellings of the working classes.

Section 5 of the Act of 1868 requires the Medical Officer of Health, if he finds that any dwelling-house or inhabited building is in a condition dangerous to health so as to be unfit for human habitation, to report the same to the Vestry or District Board. This report is to be referred to a surveyor or engineer, who is, in turn, to report on the cause of the evil, and the remedy, and whether the evil can be remedied by structural alterations, or whether the premises ought to be demolished.

The Act provides for the consideration of all such reports by the Vestry or District Board, for opportunity being given to the owner to state his objections to them, and for the execution of the necessary works either by the owner, or by the Vestry, or District Board, and if needful, for the demolition of the building. Attention should be directed to Section 5 of the Act of 1879, under which the Vestry or District Board may, in certain circumstances, be required to purchase the premises.

Section 8 of the Act of 1882 further provides that, although a building is not in itself unfit for human habitation, yet the Medical Officer of Health is to report upon it if he finds that it is an "obstructive building" as defined by the section—i.e., that it is so situate that by reason of its proximity to other buildings, or its contact with them, it stops ventilation or otherwise conduces to make the other buildings to be in a condition unfit for human habitation, or else prevents proper measures from being carried into effect for remedying the evils complained of in respect of other buildings. The proceedings to be taken in connection with a report on an obstructive building are analogous to those to be taken in respect of one on a building unfit for human habitation; but if the Vestry or District Board decide not to allow the objections which may be made by the owner, they must direct that the building shall be pulled down. Provision is made for compensation to the owner.

The Board would impress upon the Vestries and District Boards the importance of giving effect to the powers conferred upon them by the statutes in question in all those cases in which the exercise of such powers is required. They would urge them to direct their Medical Officers of Health to make returns without delay of the places which they consider ought to be dealt with under these Acts, and the Board would be obliged by being furnished with copies of such returns.—I am, Sir, your obedient servant, HUGH OWEN, *Secretary*.



## Findings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

**PROPAGATION OF DISEASE BY NEW CLOTHES.**—At the present time, when zymotic diseases are epidemic in many communities in the kingdom, it is especially important that sanitary authorities should recognise, remember, and effectually deal with, all possible sources and channels from and by which infection may be conveyed from the sick to the healthy. It is well known that the specific contagions of most of the zymotic diseases prevalent in this country readily become attached to textile fabrics; that, in such relationship, they long retain their activity; and that clothes, for these reasons, are especially apt to form the media by which infectious diseases are spread. It is necessary to warn the public that clothes which are quite new are especially liable, under certain circumstances, which we are afraid are comparatively common and frequent, to be impregnated with the specific germs of zymotic disorders. It is a trade custom, which is especially in vogue in large towns, amongst tailors, dressmakers, and others who make clothes, to employ largely the services of out-door assistants. Under this system, materials are "given out" at shops to outworkers, who take the fabrics home, and there make them up into garments, which are finished, carried to the shop, and distributed to the customers. Such outworkers are usually poor persons, and they often live amid surroundings which practically make zymotic disease a perpetual circumstance of their existence. It can be no marvel that these poor assistants of tailors and dressmakers, with the payment of their toil often cut down to the lowest limit, and driven by the stress of poverty to work even when ill, sometimes infect or allow to be infected, through ignorance or recklessness, the materials on which they work. Scarlet fever and small-pox are the zymotic diseases which are especially apt to be spread under the conditions in question. This is so for the two following reasons: the subjects of scarlet fever and small-pox are very commonly able to do comparatively light work, such as needlework, especially in their own homes, and even upon their beds, during a considerable portion of the infectious stages of their illness; and the emanations from the subjects of scarlet fever and small-pox, which are conspicuously, if not solely, contagious, namely, the desquamated epidermis in the case of scarlet fever, and the dessicated crusts in the case of small-pox are *materies morbi* which, relatively to the contagia of other zymotics, are very substantial, and especially liable to be caught and kept in the meshes of textile fabrics. That the source of public danger through new clothes, to which we draw attention, is very real and very widespread, those who have had practical experience in zymotic disorders among the poor can bear abundant testimony. The evil is one which, we are afraid, it will prove difficult completely to control. Much, however, might probably be done to minimise the public peril in question if sanitary authorities duly recognised the part which the outworkers of tailors and dressmakers play in the propagation of zymotic diseases, and vigorously dealt with the difficulty on obvious prophylactic principles. In places where zymotic maladies are prevalent, and especially where scarlet-fever or small-pox is epidemic, local health-committees should require the proprietors of tailoring and dressmaking establishments to supply lists of their outworkers' names and addresses; these known, the homes of

such outworkers ought to be regularly visited and reported upon by representatives of the sanitary authority.—*British Medical Journal.*

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**INCUBATION OF DISEASED EGGS.**—In the *Lancet*, May, 1883, p. 919, attention is drawn to some observations lately contributed by M. Barthélemy. A fowl died of cholera, and during its illness laid fourteen eggs. These were subjected to incubation, side by side with some eggs obtained from a healthy fowl. They were closely watched, and no change was noticed in the two kinds until the ninth day, when the eggs of the diseased fowl ceased to develop, and none were hatched. Examination of the eggs showed that beneath the shell and at the surface of the allantois an extravasation of black blood existed, which was characterised by the presence of an odour quite similar to that arising from fowls that died of cholera. The blood of the diseased egg was full of bacteria, and the amniotic fluid contained monads of very minute size. M. Barthélemy contends that the ovum contained the germs of the micro-organisms with which the parent's blood teemed.

\* \* \*

**HYGIENIC WATERPROOFING.**—For some time past the Belgian War Department has conducted a series of experiments at Valverde, on the waterproofing of soldiers' uniforms by means of liquid alumina. With respect to the hygienic side of the question, the medical authorities have satisfied themselves that the articles of dress thus treated permit the perspiration to pass off freely, and chemical analysis has proved that the preparation used in no way injures the materials, or destroys their colour. More than 10,000 mètres (10,936 yards) of materials, redressed two or three times over, notwithstanding the rinsing and washing to which they have been subjected after having been soiled, and after constant wear, remained perfectly waterproof. The only drawback to the process appears to be that it is not very economical, and, to ensure the desired result, must be conducted on a large scale, which requires a considerable amount of plant. The following, according to the *Journal d'Hygiène*, is the process employed:—Acetate of alumina is obtained by making solutions of equal parts of alum and acetate of lead in separate vessels, and then mixing them together. Sulphate of lead will be thrown down, leaving acetate of alumina in solution, which must be decanted. The materials to be waterproofed are soaked in this solution, and then withdrawn without being wrung, and dried in the air.—*Sanitary Record.*

\* \* \*

**DANGER OF GLAZED EARTHENWARE VESSELS.**—M. Pérusson, a chemist at Limoges, furnishes fresh evidence of the danger of using glazed earthenware vessels, inasmuch as the glaze frequently contains lead oxide, which becomes soluble in the presence of acids. M. Pérusson cites the following instance:—One hundred grammes of milk was left to ferment in a glazed receptacle, and twenty-two centigrammes of lead sulphate was removed from it. When the glaze becomes rugged, the interstices are filled with metallic and fermenting substances; thus the danger is increased. Such utensils should either not be used, or else submitted to the influence of the direct contact of flame, or, in other words, singed. This is the only method to render them harmless.

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## Our Bookshelf

"Reading maketh a full man."—Bacon.

### COMMON BRAIN TROUBLES AND THEIR CURE.

(Concluded.)

*On Failure of Brain Power.* By JULIUS ALTHAUS, M.D., M.R.C.P. (Lond.) Second Edition. (London: Longmans & Co.)

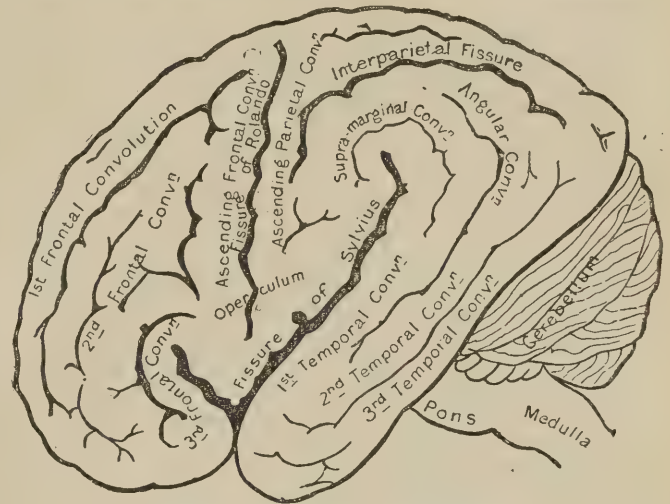
HAVING reviewed the chief data relating to the functions of the different parts of the brain, as these functions or duties have been defined by physiological science, it now remains for us to inquire into the cases of brain-disorder, which, according to Dr. Althaus, can be assigned to definite parts of that organ. Dr. Althaus' contention, it will be remembered, is that "many apparently constitutional or general diseases of the nervous system, are, in fact, local affections of certain areas of nervous matter, and require local treatment as much as other local maladies." Just as an inflamed or swollen knee-joint is a local affection of the joint, and is treated locally, say, by a blister applied to the part, so Dr. Althaus, founding his treatment on the deductions of physiology and on observation of cases of brain-disorder, contends that certain phases of brain-affections can be treated by electrical application applied to the head. "The localised application of the constant voltaic current" is the local means on which Dr. Althaus relies for the relief of the brain-disorders to which he refers. That such a method of treatment, if proved to be successful, must assume a high importance in the lists of brain-remedies, cannot be doubted. Hence it is gratifying to find in the *brochure* before us evidence that Dr. Althaus' treatment has been singularly successful in curing cases of functional brain-affections—that is, those which are unattended with any alteration of structure, and which merely present us with disordered action.

Turning now to the *frontal lobes* of the brain, shown in the figure, and described in our last article, Dr. Althaus enforces the idea, justified by modern science, that these lobes (forming the forehead portion of the brain) form "the material base of all our intellectual and moral manifestations." We see the proof of this fact in the idiocy and imbecility which invariably result when these parts are undeveloped. We witness a similar proof when, after injury to or disease of these parts, the mental and moral faculties of individuals are found to be affected. Now cases of loss of power in the frontal lobes are by no means unfamiliar to physicians. Dr. Althaus tells us that in such an event the affection shows itself "chiefly by a difficulty in fixing the attention and making sustained mental efforts. The mind is not settled, and either in a state of restlessness and unsteadiness, or drowsiness and apathy; while sometimes these two opposite conditions are found to alternate. The patient cannot settle down to his habitual occupation; he cannot read a serious book or follow an argument which requires more than passing attention. If he does the work he does it badly; he has a difficulty in composing a letter or adding up a column of figures; his thoughts are apt to wander in different directions; there is a kind of day-dreaming; an occupation is begun, but shortly afterwards there is an intermission of intellectual activity, the patient staring vacantly and doing nothing."

In illustration of these not uncommon phases of simple brain-disorder, Dr. Althaus gives us the records of several interesting cases. Amongst the details given are certain curious and important features dealing with the aberration

which the language-faculty is liable to undergo. In some instances, a patient will be unable to finish a sentence; "breaks off abruptly in the middle of it, and substitutes one word for another." Similarly, the powers of writing may undergo a change. The handwriting may become altered, the letters are formed with trouble; words may be put in which are not wanted, others may be omitted, and so on. The seat of language is shown in the diagram, being placed at the foot of the third frontal convolution of the *left* side of the brain; and the writing faculty is closely associated therewith. We thus ordinarily talk and write with the left side of our brain, which governs the right side of the body and *vice-versa*. As we are ordinarily right-handed, so are we left-brained; and it is the left half of the brain which is exercised as the most active hemisphere of the organ.

A notable observation is, that in cases of these common mind-troubles, there is tenderness when the brain is "percussed" or tapped in the forehead region; and males are



The Brain viewed from the left side.

more commonly affected than females. The majority of Dr. Althaus' patients "were bright, and clever persons, in whom, therefore, an originally large development and good nutrition of the suffering parts might be presumed to have originally existed."

Now in the treatment of these common maladies, Dr. Althaus has proceeded on the scientific assumption that the nerve-force proper to the forehead lobes, or intellectual part of the brain is still existent—seeing that there is no structural change of brain substance. This force cannot be utilised by the patient, because, says our author, "he is unable to overcome the resistance offered to its liberation." Hence in the cure of these troubles, Dr. Althaus has employed with distinct success a constant galvanic current, which every one admits traverses the brain when applied to the skull. In the lack of power of the frontal lobes, the current is applied to the forehead by instruments (or "electrodes"), "specially moulded so as to adapt themselves well to its surface." In addition, the medulla (see Fig.), and the neck portion of the spinal cord are also acted upon by way of influencing the circulation of blood in the brain. In a general way, the current suitable for most cases is given as of the strength (of cells) of from 1 to 20 Muirheads, 2 to 6 Leclanchés, and 1 to 2 Milliamperes. "The current," says Dr. Althaus, "should flow through the frontal lobes or through the entire brain from 1 to 3 minutes in one direction, and then for about the same time in the opposite direction." He adds that it is



often useful to finish up by manipulating "with the cathode right across the forehead, more especially where headache and a feeling of weight and pressure on the head are complained of. This application, if properly performed, is entirely painless."

The results of such treatment have been to show that cases in which the mind-functions have been irregular, as already described, have quickly regained their lost tone. The faculties return in all their accustomed vigour; the spirits lighten; headache disappears; and the patient begins once more to feel that life is bright and his outlook pleasant and hopeful. Dr. Althaus, with the true instinct of the man of science, warns his readers against expecting too much from electricity, scientifically applied, as a remedy for brain troubles. He does not undervalue remedies which from their tonic nature tend to improve the health; but he adds that electricity of all agencies is that which goes straight to the seat of the disease, and presents us with a means of speedily and effectively treating the affected parts.

Those parts of the brain which, from their being concerned in the production of ordinary movements, are named *motor centres*, surround the *fissure of Rolando* (see figure), and are, of course, intimately connected both with the forehead lobes and with those parts which we have described under the name of "central ganglia," &c. Those *motor centres* may, like the frontal lobes, fail in power while destitute of any actual disease; and in this case "there is a lack of sustained force in all movements . . . great muscular fatigue with aching pain, after trivial exertions; a sensation of heaviness in all the limbs, which feel like lumps of lead, more especially on waking in the morning." Jerking of the eyelids and other spasms of the muscles may also be common. No wasting of the muscles, as in paralysis, is seen. Here, again, electricity applied to the region of the brain (see Fig.), having the *fissure of Rolando* as a kind of centre, accomplishes a cure.

Looking at the illustration, we see certain *convolutions* or folds of the brain marked *temporal*. These lie in relation to the *temporal bone*, and to another bone forming part of the base or floor of the skull and named the *sphenoid bone*. Now the centres of hearing, sight, smell, taste, and touch are situated in these "temporal" folds of the brain. It is to these parts in all probability, as shown by Dr. Ferrier, that the sensations from eye, ear, nose, and the other sense-organs, are ultimately conveyed. We really see, hear, &c., with these "centres" of the brain. In cases of "nervous deafness," or where a person fancies he hears sounds which do not exist, the hearing centre is probably affected. So also with numbness of the legs and arms, the frequent "sleeping" of the limbs, &c., such conditions indicating an affection of the centres of touch or common sensation. Dimness of sight, when the eye and optic nerve are healthy, depends frequently and similarly on some aberration of the centre of sight. The application of electricity in such cases affords relief and cures the condition referred to.

The hinder lobes of the brain appear to regulate the duties of the stomach, liver, &c., and to act as centres for the regulation of the appetites, &c. Cases of depravity of the appetite, "morbid cravings and desires"—as, for example, for drink, opium, chloral, &c.—may probably be referred to abnormal action of this region of the brain. Such cases it is satisfactory to know are relieved by the application of electricity to the brain-region in question.

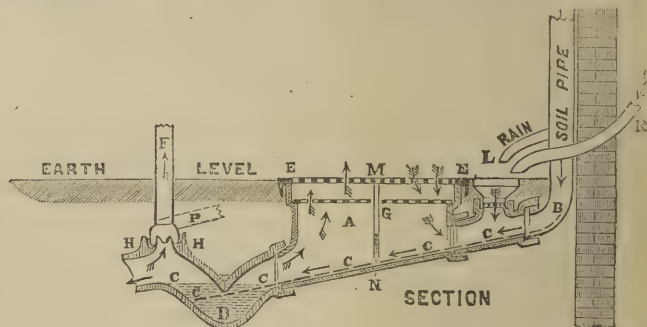
We need not follow Dr. Althaus further throughout his interesting work, save to commend it earnestly as a clearly-written and easily understood treatise on a subject which, more closely than any other perhaps, concerns our physical

welfare. In this busy age of ours, mind-troubles are unfortunately only too well-known. The value of Dr. Althaus' book is to show us that many of the commoner troubles of the brain are susceptible of speedy relief through the treatment he suggests. The work before us is also one to be commended to the notice of the reader, if only from the fact that it contains a lucid account of the physiology of the brain.

We must add, in conclusion, that in the application of electricity to the brain, only such apparatus must be used by the medical man, as will efficiently perform the work. Dr. Althaus desires this agent to perform in the relief of mind-troubles. The electrical "shams," so brazenly advertised, are utterly worthless for this, or indeed for any other curative purpose. But Mr. Carpenter's articles on electrical apparatus, published in *HEALTH*, deal in sufficiently clear and interesting fashion with electrical appliances at large to obviate the necessity for any reference here to this latter topic.

## Sanitary Appliances. Etc.

POTTS' PATENT EDINBURGH AIR-CHAMBERED SEWER AND SOIL PIPE TRAP.—This invention is of extreme practical value in household sanitation. As described by Dr. Railton, Medical Officer of Health to the Withington Local Board, the principle of this trap has been clearly shown, and our illustration will serve to render the description clear:—"With respect to the water-closets; until recently it has been a problem unsolved to sever completely the connection between the closets and the sewers; we have been glad to take off the pressure of sewer gas as much as possible from the trap in the soil-pipe by providing a ventilating shaft at the top of the soil-pipe. I am happy to say that we have no longer any difficulty in the matter; there are various methods now proposed by which the



soil-pipe of the water-closet may be so completely disconnected from the drains, that the closet might with perfect safety be constructed in the middle of a house or in a cellar, were it not for the odours inseparable from fresh faeces, which necessitate the frequent ventilation of the place. To illustrate the principle of these methods I may take as an example a trap which is called Pott's Patent Ventilating Trap. It is formed of earthenware, and may be said to consist of three different parts. The part nearest to the house is an open chamber (A), the bottom of which has a slope of the same gradient as the drain into which it passes; its top is level with the ground, and is covered in by a movable grating (M). Beyond this chamber there is a gully bend (D), which cuts off its connection from the drain by means of the water which it holds. This bend is so placed that it can be cleaned out if required through the compartment which is open to the air. Between the gully bend and the drain there is a ventilating shaft (F), which is intended to take off, as much as possible, the pressure of sewer gas from the water in the bend. It will be thus seen that there are no less than three safeguards interposed between the interior of the sewer and the interior of the house; and it is not too much to say that with the combined action of all three, there is not the shadow of a chance of any sewer gas finding its way into the water-closet. The ventilating shaft might be insufficient by itself to prevent the gas passing up the soil-pipe, especially in times of great pressure within the sewers, such as takes place after a heavy rain, but water in the bend offers



a resistance to its passage upwards. Should it succeed in forcing its way through that, it passes into the open chamber, and thence through the grid (M) into the air, whence it is dispelled by the wind. An objection struck me when I first examined this trap, viz., that through the open grid a smell might be perceived every time the closet was used, highly disagreeable were the trap situated near any window or door; this objection, however, is without foundation. There is no smell whatever; the rush of water along its sloping bottom takes place so rapidly that the fæces are carried past the opening and into the drain too quickly for any smell to be perceptible, even if one happens to be close to the grid at the moment. I may say that I have had this trap applied to the drain of my own house for the last three months, and find that it is satisfactory. Before that time the water-closet acquired a peculiar stuffy smell if the window was allowed to remain closed, although the soil-pipe had a ventilating shaft of large diameter carried up above the eaves of the roof; and when the plug was pulled up—thereby temporarily destroying the trap in the pan—there was a decided rush of sewer-gas upwards into the room; the application of the trap has effectually removed all this. During the severe frost the window was kept nearly constantly closed, and the gas was lighted during both night and day to prevent the water freezing in the cistern; in spite of this crucial test there has never been the faintest approach to a smell." The prices of this trap are highly moderate, ranging from 15s. to £3. 3s. The principle above described is, in our opinion, a highly scientific method of destroying all chance of infection from closets and other sources of contamination. The makers are the Birmingham Sanitary Association, 47, Colmore-row, Birmingham.

## Our Letter Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.

Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.

Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.

## LETTERS TO THE EDITOR.

### MAGNESIA IN BEER.

SIR,—As the custom of adding magnesia to beer, to preserve it is now becoming general, a timely caution to the householder may guard him against what threatens to become a danger to health, and which as yet has not received public attention. Formerly to preserve beer, only salts of lime and the alkalies were used by brewers. These give distinctive tastes. Magnesian compounds in beer do not give it so foreign a flavour, hence their use in brewing is replacing that of lime. Pure beer itself contains more magnesia than can be taken with impunity by many constitutions, the addition of further quantities, under names known to the trade as "Antacid," to recover old beer; "C and D," to preserve beer; "B W" (concentrated Burton water), to harden the brewing water, may increase the amount of magnesia to a decidedly injurious quantity. Brewers do not inquire into the nature of the chemicals now so largely used by them, nor into the harm they may be inadvertently doing. It is time that the brewers were reminded that the continued drinking in a popular dietetic of salicylic acid, magnesia and vegetable bitters, often of powerful tonic properties, is a question which concerns the public health quite as much as the brewer's profits. Drinking water containing magnesia in excess has frequently been condemned. Beer can disguise more, and should, with this practice coming into vogue, be closely watched. The householder should, in cases of obstinate purging, bear in mind the possible, but hitherto unsuspected presence of excessive quantities of magnesia in beer, and, in cases of doubt, submit samples to the public analyst.—I am, Sir, yours truly,

ONLOOKER.

### THE SUPPRESSION OF QUACKERY.

SIR,—As a Sanitarian, I have been much interested by the articles which have appeared in HEALTH since its commencement, and I think it supplies a want which has been much felt by those who take an interest in sanitary and other kindred subjects. I was particularly glad to notice your remarks in "Notes by the Way," in yesterday's issue, with regard to the distribution of quack-handbills, and I think the public generally will fully agree with your comments thereon. It may interest you to know that we in Sheffield have taken the matter up, and have included in the Sheffield Corporation Act, which has been passed during the just concluded session of Parliament, the following clause: "Section 113.—If any person affixes, or causes to be affixed, to any house, building, wall, board, or convenience, or delivers or exhibits, or causes to be delivered or exhibited, to any inhabitant or passenger in or near to any street, any bill or printed or written paper (whether enclosed in a sealed or other envelope or not) of an obscene or indecent nature, or referring to any disease of a loathsome or secret kind, or to any cure for such disease, he shall for every such offence be liable to a penalty not exceeding forty shillings, or in the discretion of the Justice before whom he is convicted, to imprisonment for any term not exceeding one month with or without hard labour."

This will no doubt put an end to the nuisance in Sheffield, but I think a similar clause should be inserted in the Public Health (Amendment) Act, 1875, so that it would apply to the whole country. Hoping your representations to the Home Secretary may have a beneficial effect,—I am, yours faithfully,

WM. C. FENTON, Borough Building Surveyor.

Borough Surveyor's Office, Bower Spring, Sheffield,  
September 1st, 1883.

## QUERIES AND ANSWERS.

[Correspondents will please note that Queries addressed on Post-cards are consigned to our waste-paper basket. If information is worth having, it is at least worth a letter.]

### GENERAL.

PROFESSOR LOISETTE'S SYSTEM OF MEMORY-TRAINING.—In reply to numerous correspondents, we beg to state that, from recent facts which have come to our knowledge, we are gratified in being able to re-indorse all that we formerly said in favour of this system of developing the recollective and analytical powers. The interest we take in Professor Loissette's system is founded on our appreciation of the literally marvellous results which, not only in our own case, but in that of many others, have been attained under his method of instruction. There can be no question of the soundness of the principles on which the system is founded, and we frankly regard such a training as Mr. Loissette offers as one of the most important educational advantages which has been our lot to encounter.

CARLO.—See HEALTH, No. 20.

A. G.—"Hyperæsthesia" literally means an exalted or over-stimulated condition. Over-sensitiveness of any organ or part is indicated by this term.

G. OXLEY.—Your query will be answered by your perusal of our review of Dr. Althaus's work on the brain in Nos. 22 and 23 of HEALTH.

ANTI-V.—We cannot, for the present, re-open the question.

CIRRUS.—1. We have already stated, but we may make the announcement again, that we have nothing whatever to do with any other magazine or periodical. 2. The principle you name is a highly useful one, and one now adopted almost universally in sanitation. Various authorities differ in their opinions regarding the application of the principle, but these are only natural variations which do not affect the principle itself. 3. No; not to our knowledge.

JOHN JAMIESON.—"Dr." Levenston is a notorious Glasgow quack, whose pamphlets contain the usual amount of prurient filth.

D. PRICE.—We think highly of the system you name from personal knowledge thereof.

SELF-CULTURE.—We believe they can; although in our experience such sciences are more readily mastered at first, at least, by the help of a teacher, than by self-study. They form a good source of mental training in exact thought. Write to Messrs. Longmans, Paternoster-row, London, E.C., for a catalogue of their mathematical publications, and you will find what you desire therein.

PADRE.—We think either "Sanitas" (fluid), or Chloralum, sprayed with a vaporizer or scent-distributor about the apartment, would effect all you desire, and all that is necessary. We believe in the transmissibility of consumption, as the evidence, at present, is in favour thereof.



ONE IN NEED OF HELP.—Try Norman's "B.B.B. Insect Destroyer," to be had at 37, Walbrook, London, E.C. This liquid has been found very effective, and can be squirted into flouring, etc., infested with insect-pests.

BEATRIX.—The heel-bone. (See our papers on "The body and Its Structure.")

ENDLESS.—Not possible. A thoroughly delusive notion.

A BLACK.—Attention has been given to the details.

KATINKA.—The "throat protector" must owe whatever virtues it possesses simply to its protective power. There is no "electricity" emitted by it, and its "magnetic" properties are of feeble and inefficient kind described by Mr. Carpenter in his second paper (HEALTH, page 310, No. 20). The apparatus is, in fact, a common form of electrical sham, sold at a price (in virtue of its supposed qualities) far exceeding its real value.

A. D.—We are sorry we cannot oblige you with the particulars you require, inasmuch as our giving the information you write for would involve a breach of that confidence between our correspondents and ourselves which we desire always to maintain. We are glad to hear your favourable opinion of the practitioner you name. Thanks for your good wishes; but there can be no fear of wholesome and legitimate practice being confused with quack-practice, unless the former assumes the garb of the latter, and departs from the recognised ways of the medical profession in the direction of the quack.

CAROLINE.—Most numerous in the palms and soles.

ADGEBERT.—The use of the uvula is unknown.

ENQUIRER.—"Cardiac" refers to the heart; but the orifice of the stomach, by which food enters the organ, is also known as the "cardiac orifice." The derivation of the former name is from the Latin *cor*, the heart; and of the latter from the Greek for a gate.

#### SANITARY.

F. SETTRINGTON.—Write to the Secretary Science and Art Department, South Kensington, S.W., for syllabus of the hygiene examinations. Probably therein you will find textbooks prescribed. If you fail in your inquiry, repeat your question, and we will give you a list of standard works.

M. FERRARS.—Sewer-gas has been known to be productive of the effects you name—possibly on account of its affecting the general health. But are you sure of your ventilation? Many cases such as yours are due to bad ventilation, and to the foul odours, &c., from gas-burning in confined rooms. Brixton Rise preferable, if anything. Highgate stands higher, of course.

#### MEDICAL.

HOPEFUL.—1. Pay attention to diet, and as you are now able to get fruits and vegetables, try these as food. Eat apples, oranges, brown bread, &c., for breakfast, instead of your usual dietary. 2. Take small doses of "Æsculap" mineral water, as directed on the bottle. 3. A cold bath in the morning, if it can be borne, is also a remedial measure. Write again if this notice does not suffice.

T. B. W.—The causes of cramp in the limbs are most frequently to be referred to rheumatism, chill, or some irritation of the digestive organs. The treatment consists in clothing warmly, in resting, in avoiding chills, in also avoiding any tendency to digestive disturbance, and, above all, in counteracting constipation if this tendency exists (see notice to "Hopeful" above). When the spasms are severe, rub the limbs with the warm hand or flannel, or with warm oil and laudanum. Twenty grains of chloride of ammonium dissolved in water, and given in an equal quantity of milk, may also do good.

TOBACCO-PIPE.—We recommend you to brush the teeth morning and night (with a tolerably hard and broad brush) with camphorated chalk, and to continue this practice as a matter of health. A little finely-powdered charcoal may be added to the chalk.

L'UN QUI SOUFFRE.—We should advise you to have electricity applied to the head and upper part of the spinal cord. Beware, of course, of sham electrical appliances, and see that you have a proper apparatus. We think also that a teaspoonful twice daily of Fellow's Syrup of the Hypophosphites in a wine-glassful of water would benefit you. For the liver-trouble take "Victoria Ofner Bitter Water." In your case, we opine, your symptoms arise from a weak digestive habit, and probably also from a want of tone in your nervous system. Avoid exertion, and rest as much as possible. The Isle of Wight is too relaxing for you.

SALOPIAN.—No evidence of worms in your case, as you state it; but please see to your condition as to these parasites, and report again. Malt bread will do you no harm; in your case, however, we should recommend ordinary white bread, as, perhaps, less irritating than brown bread. Try the effect of ten drops of Wyeth's

Dialysed Iron—ten drops thrice daily in water, and write again after a trial of this.

CONNIE M.—1. No cure, in our opinion, for freckles. Anything which would remove them absolutely would leave effects on the skin; but common nitre, slightly moistened and laid on the skin, is held by some to remove them; whilst others recommend "Friar's Balsam." Neither would do harm; we think they will probably fail. 2. Try the effect of plenty of fresh air and exercise; and although the cure must be mental, you might also try the iron as recommended to "Salopian" above.

DANUM.—In such cases as yours, we have found a carefully-regulated vegetable dietary do much good. Your professional experience will enable you to select and decide such food and diet. Do you rest after food? The rushing off to business is a fertile cause of dyspepsia with many. Write again if not improved.

SECOND STAGE.—There are certain remedies in our "Hair" papers which should suit you. Have you tried the treatment prescribed in page 151 HEALTH (No. 10)? That might suit your case. There is a need of stimulation in your case evidently, and small doses of iron (see advice to "Salopian") might aid you materially.

NEANIAS. For the digestive trouble try "Æsculap" mineral water, and fruits as food. Give up the late supper. Your close confinement is, perhaps, against your health. 2. As regards the emigration, we should say Australia or South Africa for preference.

W. SUTTON.—Try the tonic recommended to "L'Un qui Souffre," in present number, thrice daily. See also advice to "Danum" and "Neanais" above. Glad to advise further if necessary. Rest after eating is needful in your case.

ABDIEL.—Don't grow morbid. You are greatly in error in attributing your present weakness to the cause you name. That has probably nothing whatever to do with your ailments. You have overworked yourself, and our earnest advice to you is—firstly, to try the effect of a thorough change, and go to a bracing seaside place (e.g., Yarmouth) for a time; secondly, try the effect of Fer Bravais, 10 or 15 drops, thrice daily, in water; thirdly, give up all thoughts of study till you are well. You require rest and a bracing air as your chief medicines.

CLARA.—See our papers on "The Hair" in early numbers of HEALTH, in which the question of depilatories was fully dealt with.

A SUFFERER.—You must take means to verify whether or not your ideas regarding "worms" are correct. In event of your discovering such pests, adopt the treatment recommended to "J. F. Norton" in No. 21 of HEALTH. The symptom which annoys you may proceed from worms, but may also be otherwise caused. Use a little Vaseline to relieve it.

ENO.—No; the result you name possibly arises from weakness of some kind. We recommend "abstinence" for a time. No connection between the two symptoms you name; the latter depending on indigestion. Try a fruit and vegetable dietary for a time, and for the former trouble, along with abstinence, take the tonic recommended to "Modern Athens," in No. 22 HEALTH.

J. NORWOOD.—Possibly a little ordinary skin-irritation. Use tar-oilment; or, as a preliminary to this, try coal-tar soap and warm water. If not cured, write again.

J. GARTH.—See to your boots; wear roomy shoes. Corns, when troublesome, should be extracted; but relief from all injurious pressure is usually sufficient to cure them in time.

D. G. S.—A case for judicious medical consultation. Such cases commonly come right in time, and by attention to the general health. We should suggest that (under the guidance of your physician) recourse should be had to permanganate of potass, which has of late come into use in such cases. Glad to advise further, if necessary.

A WORKING MAN.—1. Try the effect of ten drops thrice daily in water of *Fer Bravais*. 2. The secretion you name is not what you think it to be, but one much less important. 3. If the affection continues, you should apply to a surgeon, who can readily cure you by mechanical means. 4. Don't grow morbid; your health is only temporarily deranged, and with time and care will become perfectly re-established.

JARVIS.—1. See remark (No. 2) to "A Working Man" above. When the occurrence you name is not over-frequent, no harm can result. See also advice to "A. B. C." in present number.

J. HENRY.—The "cracking" is probably due to some very slight rheumatic tendency. Rub warm oil into the joints; clothe warmly, and avoid chills.

IRELAND.—We never recommend physicians by name in HEALTH. For the nervousness, we can only, in your case, say pay strict attention to your general health. Take the tonic recommended to "Modern Athens," in No. 22 HEALTH, as a nervine stimulant; but, from your account of your symptoms, we should regard your ailment as more of mental than of physical kind. There can, at least, be no harm in attending strictly to your general health.

R. B. W.—We have found that the cold sponge bath in the



morning is the most effectual means of "hardening" one against liability to colds of all kinds. This advice is worth following, if the cold bath can be borne, and if you have sufficient re-action thereafter. Your cold possibly only attacks you as the result of some temporary weakness. We never heard of the opinion you name about the "blue vein." Glad to assist you further, if necessary.

STELLA.—There is no dye with which we are acquainted which is not open to more or less objection. We frankly said so in our "Hair" Papers. The "falling out" is not a consequence of the dye you name, but of the hair-weakness which results in the greyness. We strongly advise you to see first to the state of your general health, and to write again after a fair trial of tonic remedies, when, if not satisfied, we shall certainly endeavour to meet your wishes.

ADONIS NO. 2.—Yours is an "owre true tale" of quackery and its usual results. But you entirely mistake regarding the tonic you name. If you consumed the amount per week you allude to, you certainly exceeded any allowance which could be rationally prescribed. The secretion you allude to is not what you imagine it to be. What you require is rest (change, if possible), fresh air, and cold sponging, if it can be borne. You will improve rapidly if you will allow your mind to dwell less upon your troubles, which are not of the serious kind you imagine. Quacks invariably persuade people that their ailments are highly serious. Write again, if unimproved; but we cannot recommend you remedies which on your own showing, and apart from the tonic mentioned, you do not need.

IGNORAMUS.—Try the following:—Sulphate of quinine, six grains; dilute sulphuric acid, one drachm; compound tincture of cardamoms, three drachms; cinnamon water, five and a half ounces. A tablespoonful to be taken thrice daily. Use cold sponge baths and take moderate exercise. Write, if unimproved.

CAPILLARY.—Psoriasis, as regards internal treatment, can only be looked after thoroughly by a medical man. Arsenic may be given, and this requires careful medical watching. See notice to "W. G." in HEALTH, No. 21. A change to the sea might do you good in respect of your general health. Have the hair cut short, and use any of the stimulating lotions described in our "Hair" papers in Parts I. and II. HEALTH. The styes are indications of need of tonics and of change.

A. E. R.—Try the effect of an application of oxide of zinc ointment after washing the hands with Cleaver's Terebene or Calvert's Carbolic Soap. Then write again after a trial of this advice. A little cod-liver oil, with syrup of iodide of iron added, is necessary in your case.

ANNIE FLORENCE.—We know nothing of the hospital you name, and we may add that we have no confidence in small hospitals and dispensaries which profess a special branch of medicine. If the palpitation is merely due to disturbed action of the heart, it may be cured by strict attention to diet, &c. But, on all grounds, we should advise you to see a physician, say, at the Westminster, London, or any other well-known hospital.

C. E. BUTLER.—1. The author of the pamphlet infringes one of the most widely-observed rules of medical practice by advertising himself and his "speciality." There is nothing in the pamphlet which in any way indicates a superiority of knowledge on the part of its author over any qualified medical man. Our opinion is that the pamphlet is a sorry piece of "quack" advertising in the sense that it makes a great cry about a simple matter. Of the author, we know nothing. The other person is a "quack," pure and simple; and his "remedies" prove his real nature. 2. Use injections of salt and water, and be careful to see that all your food is well cooked, and vegetables especially well washed.

QUERIST.—We should recommend you to try the lotion mentioned in the reply to "Flora," HEALTH, No. 21. Don't purchase any quack lotions. Try the effect also of 10 drops *Fer Bravais* in water, thrice daily, and write again if unsuccessful.

SEATON.—The discharge is harmless in character, and will disappear under the use of the tonic recommended to "M. Willson," in HEALTH, No. 21. This, and rest for a time, will improve you. Glad to be of further service, if necessary.

DON QUIXOTE.—No objection, so far as we can see, to your proposed change. You might try a residence there at some altitude, as that might suit you better than a low situation. We don't think there is any likelihood of the change to Spain being in any way injurious.

A. GREY.—Yes; possibly almond oil would be the best, or any similar oil which will readily mix owing to fluidity. The directions given in the "Hair" papers are full and complete. Attend to these. Better, however, to treat the greyness apart from the loss of hair. Have you seen to your general health?

T. THORNTON.—Your second letter shows us, as we suspected, that the excessive perspiration probably depends on general weakness. We think you might try the tonic recommended you in No. 21 HEALTH for a time. Let us know the result.

W. P. P.—Yes, the result is due to irregular contraction of the

intestine. Do you know of any special cause for this? Failing any special reason we advise you to take a course of "Æsculap" mineral water, as directed on the bottles (which can be had from any chemist). This will counteract the constipation, for which, also, eat fruits and vegetables, and avoid tea, coffee, and stimulants. Give up the "salt" you name, as its continual use is highly injurious. You will find a cold sponge-bath in the morning and free exercise also beneficial.

ALMOST DISTRACTED.—The electrical removal of hairs can only be performed by a specialist. Any specialist in skin diseases in Edinburgh or Glasgow should be able to aid you. Depilatories are rarely successful.

A READER OF "HEALTH."—We are gratified to learn that our advice to you has reassured you. You are not the only one whose life has been embittered by the falsities of quacks. The first-named person is a noted quack, and his books have, we believe, ruined hundreds in health and pocket. The second you name is a duly-qualified medical man, who may, we think, be quite trusted. He is an exposé of quacks and their ways. His book is, we think, trustworthy, but we shall be glad if you will send on the edition you have to us.

DELTA.—Your stamped envelope received, but as we do not at this moment recollect anything about the query to which you wish "a reply by post," we can only thus respond to you. Your question may be found answered elsewhere in HEALTH, and we should like to add that, save in very exceptional circumstances, we never reply by letter to correspondents.

J. D. F.—Your case (with which we heartily sympathise) is one for efficient surgical advice. It is difficult to say without seeing the limb how far the movements of the forearm are limited by the injury. We suspect from your account that probably some operative interference will be necessary. This will probably be slight, and a few weeks at the most in any case would be required for its performance. Consult a good surgeon at the Edinburgh or Glasgow Infirmary.

STOCKPORT.—Consult replies to "Malade" and "Erreur" in No. 21 HEALTH, and to "J. Harley," and "Demonstrator," in No. 22 HEALTH. For the dyspepsia try "Æsculap" mineral water, and avoid late suppers. See also to the state of your teeth.

PHENIX.—We are making inquiries regarding the bath for you.

ATHOS.—Varies very greatly according to age, disposition, temperament, health, &c. Weekly, has been recommended for ordinary hard workers; certainly not oftener for those engaged in hard mental or physical work than bi-weekly. But there are enormous differences, and no absolute rule can possibly be stated. No book, so far as we know, save some of Mr. Acton's works, published by Churchill. The titles of these you will find in their catalogue.

PRINCE OF ORANGE.—1. Try tonic recommended in No. 21 HEALTH to "M. Willson." We have seen much benefit accrue from its use in cases like yours. 2. Take more exercise. This is a *sine quâ non* in your case. You must work off the effects of close rooms and sedentary habits by active exercise. 3. The "Gloves" will do you no harm. 4. The giving up your malt liquor, as stated, is wise. Try the effect of total abstinence for a time. Correct any tendency to constipation by the use of "Æsculap" water. See that your bedroom is well ventilated.

TREMBLER.—We think you should try cod-liver oil, with syrup of the iodide of iron added, in your present state of health. The "shaking" is probably hereditary, and, as regards this, we should advise you simply to rely for improvement on whatever means will benefit your general health. The mouth and throat trouble shows, in our opinion, that you require the iodide of potass more frequently for a time.

M. K.—A disagreeable breath, as often as not, arises from bad teeth. See, firstly, to the teeth, and attend carefully to their cleanliness, washing them with camphorated chalk morning and night. For the stomach-trouble, which may be the cause, partly or wholly, of the bad breath, use the mineral water recommended to "Prince of Orange" above. The use of Bragg's Charcoal Biscuits is also to be recommended to you. If your chest is at all delicate, have the state of your lungs examined. The mouth may be frequently gargled with Condy's Fluid and water (1 part to 10 or 12 of water). Cure of digestive troubles often causes foulness of breath to disappear.

A. N.—Thanks for your letter. Can you procure for us or send us the address of any one who sells the book you mention? We are always interested in seeing whatever may benefit those who suffer.

FRED. E. COE.—From your description of your case, we should say the surgical opinion was correct. In such cases an operation has every chance of success; and should you find you are hindered in any way by the deformity, we should approve of your resolution to submit to the treatment recommended. "Orthopædic" surgery has made many and great advances of late years.



**F. ALEXANDER.**—Read the advice given to "W. G." in *HEALTH* No. 21. The tar-ointment should do you good; the chrysophanic acid ointment is also valuable, but is apt to stain the skin and linen deeply. "Ichthyosis" is a very rare disease; from your description it is clear you are troubled with psoriasis, and not "ichthyosis." Write again, if not improved. The lotion you name is useless in your complaint.

**ANTHROPOPHAGI.**—We do not know any process whereby the pitting from small-pox can be removed. Considering that pitting is a process in which skin-destruction and scarring has proceeded, we are unable to see how any process can replace lost tissue. We have no confidence in such a process as is advertised; but you must yourself judge of the advisability of trying it.

**G. W. B. B.**—The symptom is one deserving attention. Examine your mode of life thoroughly. Is your work properly regulated, and are your duties too hard? We should recommend a week's rest in a bracing air. See that you do not rush to excess in any way. You might also try the effect of the application of electricity locally to the head (see our review of Dr. Althaus's book in present number). Write again if not improved.

**K. B.**—Difficult to say; except that as a matter of experience some persons are liable to feel insect-bites more acutely than others. Try the "B. B. B." Insect Destroyer of Messrs. Norman, 37, Walbrook, London, E.; and use Coal Tar Soap in washing.

**MARY W.**—Send us an account of your habits, diet, mode of life, &c. Your details are too meagre for us to advise upon.

**J. W.**—See reply to "Mary W." above. Try the effect meanwhile of a vegetable dietary, eating fruits, &c. No need to be nervous. Describe the spots fully,—duration, size, disappearance, &c.

**J. PULLAR.**—Discard the worm-theory. There is no evidence of such a thing. Your affection accounts for everything. You should,

through your medical man, ascertain whether or not you should continue your medicine. For the throat the following gargle should do good:—Biborate of soda, one drachm; glycerine, two ounces. Use a little occasionally. The throat sores might be touched with a little bluestone.

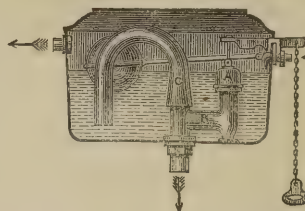
**YORK.**—Rest chiefly, and pay careful attention to state of bowels. No medicines required unless any special features occur. In latter case write again.

**MEDICUS.**—Rest after meals chiefly; take "Æsculap" water as a mild aperient; drink less tea, and take a little more open-air exercise. No medicines required.

**S. H. C.**—Wash the feet with a solution of alum and water. "Fullers' Earth" is good for preventing abrasions. Wear thinner socks in summer, and avoid any compression of the ankles by boots.

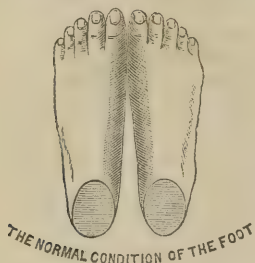
**A. B. C.**—The belts you mention are effective; but you must exercise moral control. In the absence of this control, no treatment can possibly do you good. Sleep on a hard mattress, avoid fluids late at night, and take moderate exercise. Take also the tonic recommended to "L'un qui souffre," in present number of *HEALTH*.

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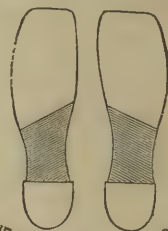


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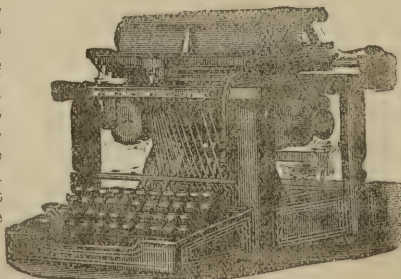
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"BISHOPTHORPE, YORK, October 14th, 1882.

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# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, SEPTEMBER 21, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

WE do not hear of cases of poisoning by wall-paper so frequently as in previous years. This gratifying result arises, we believe, from the fact that manufacturers are using pure chemicals in which either no arsenic is contained at all, or in which the quantity of that material is represented by an infinitesimal amount. On the Continent, stringent laws have been formulated in reference to this question of poisonous colours. Not only in wall-paper, but in children's toys, and even in their sweetmeats, poisonous colours have been found, and more than one case of fatal nature has arisen from the incautious use by children of a paint-box in which deleterious ingredients were contained. In May 1882, we learn, an order was passed in Germany, mentioning certain colours, and declaring that such were on no account to be used either in the preparation of foods or drinks, or in the decoration of the wrappers in which articles of food were contained. Arsenical colours were specially forbidden to be used in wall-papers and dress materials.

+ + +

VESTED trade interests, it appears, have as much say in Germany as in our own land. The law referred to created a storm of opposition, it having been alleged that the German manufacturers would be placed at a disadvantage with foreign competitors were the regulations regarding poisonous colours to remain as originally framed. Last February a special committee, to which the whole question had been referred, gave in their report. This Committee advised that the law prohibiting the use of certain colours in the wrappers of foods and drinks, and in the decoration of toys should be rescinded. It was also deemed advisable to suggest that, as regards the toy trade of Germany, it was of importance that some international agreement should be arrived at with the view of preventing the handicapping of the native industry in foreign competition. The wisdom which neglects trade profits in favour of health, acts as a stimulus to improved manufacture. If people are compelled to cease the employment of that which is noxious, they will, as a matter of common sense, bestir themselves to find harmless substitutes.

THIS latter contention is proved by what has occurred in the case of arsenical paper-hangings, the German manufacturers, shortly after 1854, finding the legal restrictions to the use of arsenic somewhat too serious, set their wits to work, and employed only harmless greens in their factories. Again, fuchsin, which is itself harmless as a colouring agent, usually contained traces of the arsenic with which it was prepared. Now, that colouring agent, and others allied to it, are manufactured entirely free from arsenic. It seems clear, therefore, that in regulating the public health, it is a fairly safe axiom to assume that if the public safety be made the primary contention and condition, science will soon find ways and means of obviating commercial inconvenience by the production of harmless methods in manufactures of all kinds.

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THE value of onion juice as a cure for wasp-stings has received additional confirmation by the case of a boy who was severely stung by a nest of wasps, but whose pains and injuries were relieved by the application of the householdy remedy above noted.

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THE question of sewage and its disposal is rapidly coming to the front, as an absorbing feature of sanitary science. For our own part, we have no hesitation in saying that, despite the cry which will be heard regarding the waste of valuable material, when the proposal is mooted to send all sewage safely into the sea far from all possibility of contaminating our homes, some such device alone will solve the difficulties of this question. There is no plan of drainage which satisfactorily meets all sanitary demands. The dangers of drainage, and the possibilities of contamination, are so numerous, that, as experience has shown, sanitarians have not yet seen in operation a system on which they can place even a moderate amount of reliance. If any one doubts the truth of the indictment against our drainage systems, let him reflect on what happens in London itself, where science, wealth, and experience should find their most convenient field for the development of sanitation. Here, a great river receives the sewage of an immense city. Even at Teddington, far up the Thames, the pollution is carried on. The result is that the river is converted into a huge open sewer, whose water is laden with the perpetually renewed refuse of millions.

+ + +

NOR is this all. The Thames forms the source of water-supply for the Metropolis. Various water companies draw their supply from the river, pass it through filtering-processes, more or less imperfect—for no process of filtration can wholly remove the effects of sewage—and issue this beverage to the inhabitants. London, as to its water-supply, is far behind Glasgow and Edinburgh, and every one knows that Manchester has now insisted on drinking pure water. We can thus understand how the disposal of sewage becomes all-important to the sanitarian in a double sense. If the rivers, which are the natural sources of water-supply, are to be utilised for sewage conveyance, the destruction of this supply becomes a serious matter, and entails the expense and labour of a community seeking water, it may be, many miles from each town. Again, a foul river is a perennial source of disease. There seems no prospect in the future of sanitation so likely of realisation as that which proposes to send all sewage direct into the sea. Large works for this purpose would require to be constructed, but we should, even then, purchase health at a cheap rate.

+ + +

THE question of the value of meat in our dietary has just been discussed by Dr. Graily Hewitt from a somewhat



interesting point of view. Flesh is, of course, undeniably a food which adds to the substance of our frames; in other words, it is a "tissue-building" food. It would also appear that flesh exercises a stimulant action upon those changes which in health the tissues of the body are always undergoing. The quantity of flesh which physiologists agree is that required for a healthy adult indulging in ordinary work and exercise is about ten or twelve ounces per day. If we exceed this amount, over-nourishment and the diseases which follow in its train is the result. But if we under-nourish ourselves in this matter, the effect is the same—disease being induced through under-nutrition. In many cases, and especially in that of the gentler sex—we would like to add in the case of working-women—the effects of a dietary in which the quantity of meat is reduced to a minimum, are highly serious. Dr. Hewitt lays great stress on the necessity for a fair amount of meat as a readily-digested, nutritious food in the dietary of women, both as a means of preserving health and of warding off disease.

\* \* \*

It seems, as Darwin long ago remarked, that our jaws, as the ages advance, are growing shorter, and that we tend to develop more teeth than we require, or more than there is room for. Mr. Spence Bate, F.R.S., has expressed such views at the recent Dentists' Association meeting at Plymouth. Those of us who have experienced the annoyance of a "wisdom tooth" trying to settle down in the jaw, like a fat man in a crowded omnibus, in a space which is much too small for it, or which may have become obliterated, will probably agree with the above views. It would seem as if, in human development, the brain-case shoots ahead of the jaws. It is the opposite in the gorilla and other man-like apes. There the jaws protrude far beyond and in front of the brain. The further observation has been made, that the tooth-structure of the civilised races varies from that of the savage and more primitive groups. There is no reason to feel surprise at these statements. We have not concluded our development as a species; and that "the man of the future" may represent a very considerable modification of the existing structures of his race seems a fair inference from the facts of life and nature as they stand.

\* \* \*

STATISTICS of suicide are always interesting, because they tend to supply a certain amount of information respecting the influence of civilisation, diseases, and other conditions on the welfare of the people in the "struggle for existence." The French nation has been credited with furnishing a greater number of suicides than any other people. Paris, according to recent figures, leads the way in this matter. In Paris there are 402 suicides yearly, to each million of inhabitants. In London there are 87 to the million; in Stockholm, 354; Copenhagen, 302; Vienna, 287; Brussels, 271; Dresden, 240; St. Petersburg, 206; Florence, 180; Berlin, 170; New York, 144; Genoa, 135; Rome, 74; and Naples, 34.

\* \* \*

MR. HENRY POWER, F.R.C.S., in a lecture on affections of the eye, and when dealing with shortsightedness, says that this affection is essentially an ailment of civilisation. He tells us that proportionately as the eye is directed to minute objects, and its accommodation to distance more strongly exerted, the number of cases of shortsightedness will increase. The ailment is almost unknown amongst savages; and Mr. Power tells us it has developed amazingly since the institution of examinations and the advance of education. Civilisation of high degree is not without its drawbacks, and we must now number this eye-affection amongst the results of living wisely and highly.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### MEDICO-ELECTRICAL APPLIANCES AND THEIR EMPLOYMENT AS AIDS TO HEALTH.

By WM. LANT CARPENTER, B.A., B.Sc.

FIFTH PAPER.

IN the last article of this series, the conditions necessary for the development of a continuous electric current by chemical action were clearly defined. It may now be convenient to glance shortly at those forms of voltaic or galvanic \* batteries which are most suitable for medical purposes.

In the simple cell, with a zinc and a copper plate immersed in weak sulphuric acid, the zinc is "burnt," as it were, at the expense of the oxygen of the water, and hydrogen gas is liberated, not, however, from the surface of the zinc or negative, but from that of the copper or positive plate, owing to the decomposition of a chain of particles of the water between the two plates. In a short time, however, the surface of the copper plate becomes clogged with a film of minute bubbles, which seriously interferes with its proper action, so that the strength of the current is very much diminished, and in time ceases almost entirely. To this condition of things the term *polarisation* is given, and the chief object of the inventors of various kinds of batteries is to prevent this internal polarisation. In Smee's battery the positive plate is not copper, but platinised silver. A series of six of these, mounted in a frame so that the plates can readily be lowered into the exciting liquid, is a very suitable arrangement. So also, but more powerful, is the so-called bichromate battery, which may be similarly arranged; here the positive plate is carbon, and the exciting liquid a mixture of sulphuric acid and bichromate of potash. Then comes the Leclanché battery, excited with a solution of sal-ammoniac, the plates being zinc, and a mixture of carbon and oxide of manganese, either packed in a porous cell or held together between carbon plates by india-rubber bands. Very suitable and very portable forms of this battery are constructed specially for medical use, and were alluded to in articles II. and III. of this series. This form requires a period of repose after use, in order to recover its full power, by absorbing oxygen from the air. Lastly comes some modification of Daniell's constant battery, in which two fluids are used; the zinc plate is immersed in weak sulphuric acid, and the copper plate in a solution of or sulphate of copper or blue vitriol, the two fluids being separated by a diaphragm of porous earthenware. Where very prolonged applications of the current are required this is probably the most suitable form of battery, as it may be worked continuously for many hours without sensible diminution in strength; polarisation is prevented by the constant renewal of the metallic surface of the copper plate, the hydrogen evolved by the zinc reducing metallic copper on to it from the solution of the sulphate.

If it is desired to transform the constant current produced by any of these batteries into an intermittent current of high tension, recourse may be had to the induction coil, the principle of which was explained in article I. This, however, should be used with very great caution, and

\* These terms are simply derived from the names, Volta and Galvani, of the two Italian philosophers who first investigated the subject.



under the advice of an expert, as serious mischief may be done by those who are inexperienced in such matters; a far better mode of producing an intermittent current of precisely the same character medically, is to use the small magneto-electric machines described in article III., by which the energy of mechanical motion (entirely under the control of the operator) is converted into intermittent electric currents.

In all cases of the application of electricity to the human body, great care should be taken to diminish, as far as possible, the resistance offered to the passage of the current by the epidermis or outer skin, which, when dry, is almost an insulator, but whose resistance diminishes in proportion to its moisture. This is, perhaps, most conveniently done by keeping the local surface of the body well wetted with salt and water for half-an-hour or more, prior to the application of the current. Again, the size of the electrodes employed (*i.e.* of the pieces of metal in contact with the skin) practically determines the amount of the current that will pass through the body from a given number of cells. If these be doubled or trebled, &c., in size, it is found that the resistance of the skin is diminished two or three times, &c. The resistance of the intermediate muscle and tissue is almost negligible compared with that of the skin. Another, but more painful mode, of eliminating the skin resistance is to insert underneath the epidermis small silver-claw forceps, known to surgeons as "serrefines." Where it is desired to apply the electricity to a particular nerve or muscle, then it is necessary to employ smaller poles or electrodes in contact with it alone. Another motive for the use of larger electrodes is the prevention of any irritation on the skin at the point where the electricity passes through it, which is very apt to occur if merely the end of a wire be brought in contact with the surface of the body; it is probably due to the well-known heating effect of a current, when a large resistance is put into its circuit. There is some reason to believe that the resistance of the skin is locally diminished by the prolonged action of the current.

It will perhaps have already occurred to the thoughtful reader that all the forms of apparatus hitherto described for producing electricity for medical purposes are more or less deficient in the important element of portability. Even a small magneto-machine, which requires no acids, &c., is too heavy to be carried about for any time. Of the batteries described, only one—the Leclanché—can be conveniently sealed up and made portable; and it would certainly not be impossible to carry three or four small cells of this kind in the pocket, if it were desired to submit to the operation of a continuous current. We are, however, indebted to the ingenuity of Mr. J. L. Pulvermacher, who has devoted many years of research to this subject, for the construction of apparatus which shall be at once portable, highly effective, and requiring for its excitation no corrosive acid, but only a liquid to be found in every house, *viz.*, vinegar. The present writer has had the opportunity of seeing a large number of original letters from many very eminent medical men, ranging over a period of several years, all bearing testimony, not only to the efficacy of Mr. Pulvermacher's inventions, but also to the fact that they are constructed upon truly scientific principles,—a point which he (the writer) is also able fully to confirm from his own knowledge, and his investigation of their construction and properties. He has also seen eulogistic references to them in several English and foreign works upon medical electricity.

The principle of Mr. Pulvermacher's "chain-bands," as they are called, may be thus briefly stated. Each "element" (corresponding to one cell of a battery) in the chain is made of equal lengths of zinc and of gilt copper

wire, wound upon a flexible flat band, and separated from each other by an insulating thread. A series of these elements connected alternately, the zinc of one to the copper of the next, forms a chain-band, the ends or poles of which are flat pieces of metal, intended to be placed in contact with the skin. A more powerful instrument, called a chain-battery, is constructed on a similar principle, from alternate hollow perforated cylinders of sheet zinc and gilt sheet copper, linked together in chain fashion. When a single element of either a chain-band or a chain-battery is immersed in a vessel of vinegar, and wires from each end of it are connected with a galvanometer, a strong deflection of the needle will be observed; but in a few minutes, owing to *internal polarisation*, this deflection is speedily reduced to a small fraction of its original extent. If, however, this element be now removed from the liquid, and the superfluous vinegar be allowed to run off, sufficient will remain in the interstices, by capillary attraction, to excite it, and then a very curious phenomenon will at once manifest itself—the *element will become depolarised*, so that the needle of the galvanometer will return to its original position, and will remain there for a long time, frequently from two to three hours, depending mainly on the rapidity of evaporation of the vinegar. The explanation of this very remarkable fact is to be sought in the oxidising influence of the air upon the hydrogen surrounding the wires which compose the element. It is in making use of *this atmospheric depolarisation* that one of the peculiar merits of Mr. Pulvermacher's apparatus consists, and, since it is constructed only of wire, it has the additional advantage of great efficacy in a very small compass. Why this is so, we shall endeavour to prove in the next article. In order to render their current intermittent when desired, an ingenious little current interrupter is also supplied with them. Where a more powerful current is desired, one or two of Mr. Pulvermacher's Chain Batteries may be employed with advantage. Each battery contains sixty such elements as are described above, and a pair of them may easily be carried in the pocket. The very great weight of many medical batteries arises from the thickness of the zinc plates employed, which do not add to the power of the battery, but are, like the coal in the tender of the locomotive, a reserve or store of energy.

The appliances made of wire are specially designed to be worn upon the body as a belt, and are frequently supplied with felt pads to be placed next the skin; they are, of course, specially adapted for producing a constant and continuous current, in a form so simple as to be easily applicable by the patient himself, an advantage which has had considerable influence in popularising medical electricity. As the original idea of constructing apparatus which should be at the same time portable, wearable, and thoroughly efficient electrically, is due to Mr. Pulvermacher, it is much to be regretted that the phraseology in which he describes his appliances should be so closely imitated by persons interested in the sale of so-called electric belts, many of which have nothing electric in them but the name.

## HYDROPHOBIA: ITS NATURE, CAUSES, AND TREATMENT.

By DR. ANDREW WILSON, F.R.C.E.

### FOURTH PAPER

WHAT explanation, it may be asked, can be afforded of the long-delayed appearance of hydrophobia? The only answer which can be given to this question is that which refers the cause to the detention and storage, so to speak, of the poison at the seat of infection, namely, the wound.



The subsequent liberation into the system of the poison produces the disease. The lesson to be drawn from this belief is that which inculcates the duty of destroying the virus, fully and completely, by cauterisation or otherwise, on receipt of the injury. Parallel cases are not unknown in medicine which seem to point to the storage of matter capable of producing after-effects. A child duly vaccinated has been known to develop the vaccine-pustule a year after the operation. A little girl of fourteen developed vaccine-spots from the point in which she had been vaccinated *when an infant*; her elder sister being re-vaccinated from these long-delayed vesicles. In such cases as these the vaccine-matter must have been locally stored up, and must have been called into activity by some circumstance favouring its liberation into the blood at large.

Can any explanation be afforded of the variations in the period of incubation in man and in lower animals? To this question only a very qualified answer can be returned, although, at the same time, the circumstances of hydrophobic infection and of its variations in respect of its development can be readily shown to relate themselves to the phenomena exhibited by other specific diseases. A period of incubation has been already shown to be a perfectly natural occurrence in such diseases. That the period of incubation in fevers and other disorders varies according to the age, constitution, sex, and temperament, and state of health of the patient, is a fact admitting of no dispute. Mr. Rigden's case, and that of Dr. Elliotson, already quoted, is susceptible of explanation only on the latter hypothesis. And in the case of the experiments on dogs, it is highly probable that differences in the breed of dogs, and in their constitutional peculiarities, determine in favour of or against the speedy occurrence of the symptoms of hydrophobia. There are well-known instances of human beings who exhibit a special liability to the attack of certain disorders, and of others again who seem to pass scatheless under circumstances of the most trying kind. There are also certain races which, as a whole, escape the attack of diseases to which other races are subject—these facts pointing to peculiarities of constitution in the individual, or in the race, as the cause of susceptibility to or immunity from disease. And so may we imagine the advent of hydrophobia and rabies in man and in lower animals may be influenced, either as regards the shortness or the extension of its latent period. This explanation, it is true, may be regarded as dealing more with the general principles of hydrophobic infection than with its exact *rationale*. But the science of the causation of disease has not yet advanced sufficiently far to enable us to point to the exact circumstances which favour the development or retard the growth of the virus. The field of inquiry, however, is one to which the general facts just mentioned clearly point the way.

The importance of a clear understanding of the nature and prevention of hydrophobia is made clear by the returns of the Registrar-General, in which the number of deaths from this disease are duly recorded. In 1844, Mr. Hawkins says, that he knew of only two cases of hydrophobia having been seen in the practice of St. George's Hospital, London, between that date and twenty-five years before. Many good authorities found it hard to believe in the existence of a distinct and specific disease to which the name "hydrophobia" could legitimately be given. In 1838 we learn that 24 persons died in England of this disorder. The next year in which the disease attained a high development was 1848, when no less than 27 cases occurred. Seventeen cases are recorded as having occurred in 1849, 13 in 1850, and 25 in 1851. In the period extending from 1856 to 1866, 93 cases are recorded, and of

these 93 cases, 36, or more than a third, occurred in 1866. This latter year saw the largest number of cases since the practice of registration began. The population at the middle of 1866 was estimated at 21,210,020, and about two cases of hydrophobia to each million of the population was therefore the proportion represented in that year. In the preceding year the fatal cases of hydrophobia did not show half this proportion. In 1870, as the next year after 1866 when the number of cases rose, 32 cases were recorded—1871 showing no less than 56 cases. Thirty-nine occurred in 1872; 28 in 1873; 81 in 1874; 47 in 1875; and in 1876 over 50 cases at least. In the decade ending 1875, 334 persons died in England of hydrophobia. In 1877, 16 cases are stated as having occurred in London alone, up to the end or near the end of November; but there can be little doubt that a large number of cases will have to be added to the returns for 1877. Statistics of this disease discover some remarkably curious facts relating to the persons bitten, and also to those who escape hydrophobia, although placed in circumstances of a kind likely to engender the affection. The recent report of the Postmaster-General contains the peculiar information that in 1876, in a large town in the north of England, 20 per cent. of his officials, or one in every five, were bitten by dogs.

What may be the conditions to determine the affinity of dogs for these northern letter-carriers is a thought left to the imagination of the reader; but for the satisfactory discussion of the matter, we should require statistics of the total number of persons bitten in the town referred to, as well as information relative to the habits and practices of the Post-office officials, and to the cases (if any) of hydrophobia which appeared, and the results of treatment. Very interesting is it to find the secretary of the Home for Lost Dogs at Battersea informing us that not a case of hydrophobia has occurred in the metropolitan police, whilst no case has occurred at the Dog's Home within the last seventeen years. The head-keeper has been frequently bitten, and sometimes severely, and presumably by all kinds of dogs, without once suffering any inconvenience beyond the mere local pain resulting from the injury.

Statistics show us that only a certain proportion of the persons bitten by a mad dog apparently suffer from hydrophobia—a result due it may be to constitutional peculiarities, to the greater or less nervous nature and amount of the infection, or even it may be to the state of the general health prior and subsequent to the injury. Authority has stated the proportion of hydrophobia cases of those bitten at 1 in 25; but this computation is decidedly too low. Of 114 persons bitten by rabid wolves, 67 took hydrophobia. In 75 cases, the bites of dogs, it is interesting to note, were inflicted in 9 cases in the arm, in 15 on the face, in 11 on the leg, and in 40 on the hand.

It is interesting to know that M. Pasteur's instructions to the physicians who go out to Egypt to study the cholera are based on the assumption that it is highly probable, if not certain, that cholera does not enter the human organism by the respiratory, but solely by the digestive channels, except in very exceptional circumstances.

THE PULSE OF ANIMALS.—In horses, when at rest, the pulse beats forty times, in an ox from fifty to fifty-five, and in sheep and pigs about seventy to eighty times per minute. It may be felt wherever a large artery crosses a bone, as at the angle of the horse's lower jaw.

THE "SPÉCIALITÉ" LIME JUICE, for family daily use throughout the year, has not the usual musty flavour; will not turn mouldy; may be obtained of Chemists and Grocers.—FELTOW & SONS, Albemarle-street, London, W.—[ADVT.]



## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—Gay.

### NOURISHING FOODS.

IN a long and interesting article in the *Pharmaceutische Centralhalle* on the nourishing powers of various natural and artificial foods for infants and invalids, Dr. Stutzer, of Bonn, gives the following results as far as concerns their nitrogenous constituents:—

Flesh-Formers.	Per cent.	Flesh-Formers.	Per cent.
Caviar .....	25·81	Condensed milk .....	8·79
Revalenta .....	19·93	White bread .....	7·20
Smoked ham.....	18·92	Biscuit .....	6·71
Fresh beef.....	18·53	Oysters .....	5·78
Fowl (breast) .....	16·56	Cow's milk .....	4·00
White of egg.....	13·48	Extractum Carnis ...	3·40
Yolk .....	13·01	Malt extract .....	0·28
Infants' food .....	9·90		

The above table gives rise to some curious reflections. The wonderful nourishing powers attributed to oysters are found to dwindle into insignificance when compared with other food; for instance, a single hen's egg contains as much nourishment—that is to say, as much flesh-forming material—as fourteen oysters, while one quarter pound of lean rumpsteak is equal to about five dozen of these delicious but delusive molluscs.

With regard to condensed milk, it contains much less flesh-forming material than is generally supposed. Taking 4 per cent. for cow's milk as a fair average, the directions on the can, if followed out, give unexpected results. For children's use, we are told to dilute the condensed milk with four or five parts of water. Taking the lowest figure, we should then have five parts of diluted condensed milk, which, according to Dr. Stutzer's figures, would only contain 1·76 per cent. of flesh-formers, instead of 4 per cent., while the milk sugar would be increased from 4·5 to 10·85 per cent. We know that woman's milk contains more sugar than cow's, but still not in the above surprising proportions. Now that so much canned milk is used for infants brought up by hand, it becomes a question how far mothers who cannot suckle their children are responsible for the health and even lives of their children by giving them milk from the tin cow instead of that of the living animal.

Dr. Stutzer further exposes the often exposed superstition about the nourishing powers of beef-tea. He extracted all the extractable matter from one hundred grammes of beef with one hundred grammes of water, and a good proportion of salt, at a gentle heat for four hours, but could only succeed in obtaining in solution one-twelfth of the nourishing matter of the beef, the remaining eleven-twelfths remaining behind in the *bouilli*. In other words, we should have to take half a gallon of beef tea made with a pound of beef to each pint of water before we got as much nourishment as is contained in a quarter of a pound of steak. We might, it is true, evaporate our beef-tea down to, say half a pint, but we doubt if it would be palatable to the least squeamish invalid. The high value of eggs, too, is well shown; in fact, roughly speaking, a couple of eggs weighing three and a-half ounces are about equal to two ounces of good rumpsteak.

Dr. Stutzer, in the course of this article, mentions three samples of cocoa warranted free from fat (*entölter Cacao*)

from different houses, which contained respectively 33·48, 32·31, and 30·95 per cent. of fatty matter of some sort.

The highly nourishing powers of caviar will no doubt strike the "general" with amazement.

With the law of libel in its present condition, we have been obliged to omit names, but Dr. Stutzer either has not the fear of the law before his eyes, or they "order these things"—legally, at least—"better in Germany."—*The Chemist's Journal*.

COMPARATIVE STRENGTH OF MEN AND WOMEN.—The rival, though essentially divergent, merits of the two sexes have been discussed so often and so differently that a few new facts will not be unwelcome. We will not pretend to say what use may be made of these facts in argument, but they will at least help to define the muscular superiority which even the most advanced women acknowledge men, at all events for the present, still possess. From Paris we receive the report of experiments conducted with an instrument on which the palm of the hand is placed, and a downward pressure exercised. Sixty-four men, aged from twenty-five to forty-five years, belonging to the middle classes, and whose ordinary occupation did not necessitate any sort of manual work, were prevailed upon to try their strength. The strongest man was able to produce a pressure equivalent to 85 kilogrammes (a kilogramme weighs over 2 lb.), the weakest to 40 kilogrammes; and the average was 56 kilogrammes. There was also an average difference of 10 kilogrammes between the strength of the right and left hand; but the shorter men were nearly as strong as the tall men, as an average difference of only 3 kilogrammes was noted. The number of women whose services were secured for exactly the same trial of strength was unfortunately not the same. There were only fifty-two women, but these were taken from the same class of society. The force of the strongest woman amounted only to 44 kilogrammes, and that of the weakest to 16 kilogrammes; while the average was 33 kilogrammes. Thus it may be said that, in this particular form of exercise, women only possess three-fifths the strength of men. The difference of the right hand over the left in women amounted to 5 kilogrammes 500 grammes (a gramme is about 15½ grains), while the smaller women proved to be a little stronger than their taller sisters.

COLD BATHING A HINDRANCE TO CURE.—We are open, says the *Lancet*, to anything that looks like truth and sense wherever it appears. The *Monthly Homœopathic Review* is not an organ from which we can be accused of often quoting, but in the number for August there is a hint which we readily take from Dr. Pröll, of Nice and Gastein. It has reference to the case of a Russian child, aged seven, troubled with chronic diarrhoea, for the cure of which all treatment, homœopathic included, was unavailing. The boy looked exceedingly ill, face pale, sallow, emaciated, with dark hair and sunken eyes. The urine contained a sensible amount of albumen, and Dr. Pröll was in despair. At one of his visits he heard the child screaming, and ran to him, and found him naked, and being rubbed down with a sponge full of cold water. It instantly occurred to Dr. Pröll that this was keeping up the diarrhoea and the albuminuria, and he ordered its discontinuance, and the use of more limited sponging with tepid water. Three days after the diarrhoea ceased. After a week the albumen was reduced to half, and after a fortnight "the Bright's disease was cured." This is very bad homœopathy, but it is good practice, and we gladly record it to Dr. Pröll's credit and for the advantage of all physicians.



## The Body and its Structure

"The proper study of mankind is man."—Pope.  
 "What a piece of work is a man!"—Shakespeare.

### NO. XVII.—JOINTS.

BY A. J. MANSON.

WHEN we regard the body as composed of a series of structures intended for active movements, the necessity for "joints," or "articulations" as they are named in anatomy, becomes plain and apparent. The idea of "articulate" speech, founded on the intelligent junction of syllables and words, is thus extended, in so far as the name "articulation" is concerned, to anatomy. And joints are accordingly spoken of scientifically under this latter designation. The union, for purposes of movement, of any two parts, may be said, under ordinary circumstances, to constitute a "joint." But there are joints and joints in anatomy. There exist joints in which no movement is intended or possible. We have seen, for example, that the bones of the head are united by a kind of dovetailing. The sharp projections of one bone fit into depressions or notches in the other. This mode of union constitutes a joint, of the kind already described (see the paper on the "Skull") as a *suture*. Again, two bony surfaces may be united by the interposition of a plate of *gristle* or *cartilage*; and this latter manner of union we see in certain parts of the skull. In old age in man, the *sutures* or joints of the skull become obliterated; and in birds this latter condition of matters is normal and usual.

The *sutures* are "immovable joints"; and being immovable, lie outside the ordinary notions of such structures. The true or movable joints of our bodies fall into two classes. These are the "half" joints and "whole" joints. If we regard the manner in which the various *vertebræ* or bones of the spine are united together to form the flexible "back-bone," we may find in the spine the most typical examples of half-joints in the body. Here, there is a plate of gristle placed between each pair of bones, and although no free movement of any great extent is permitted, yet the limited motions of these bones give a high degree of flexibility to the spine as a whole.

The free or complete joints in the body include various forms of movement. Thus we find joints which, like those of the elbow, knee, ankle, and fingers, are called *hinge-joints*, from the resemblance of their movement to that of a door on its hinges. The *ball-and-socket joints*, as their name indicates, consist each of a cup, or socket, in which the "ball," represented by the rounded head of a bone, works. Joints of this kind are best seen in the shoulder and hip. The round head of the *humerus*, or bone of the upper arm, works in the shallow cup represented by the "glenoid cavity" of the shoulder-blade; just as the round head of the thigh-bone works in the socket of the haunch. In addition to these two varieties of joints, we discover a third kind, in the shape of the *pivot-joints*, of which the arrangements whereby the wrist "turns" form an example. Here, one bone, the *radius* of the forearm, already described (see HEALTH, page 153), turns round the ulna, its neighbour-bone, and the lower end of the upper-arm bone. We see the pivot-joint also illustrated when we turn or nod our heads. The head and first vertebra (or *atlas*), turn and move on the bony peg, or pivot, found on the second bone of the neck, or *axis*.

The structure of any joint more or less closely resembles

that of its neighbours. Thus entering into the composition of the joint we find, firstly, the *bones*, and, secondly, the *ligaments*. These latter are the stout cords or structures which bind the bones together; and which often enclose and invest a joint, which, as in the case of the shoulder and hip, is liable to dislocation. The surfaces of the bones which move one upon the other are coated, thirdly, with a delicate kind of *cartilage* or "gristle," known as *articular cartilage*. The delicate bluish-white tint seen on the end of a bone which has just been turned out of its socket in the butcher's shop, will recall to mind the appearance of this variety of cartilage. The utility of this structure is obvious, since by its elasticity and softness the cartilage prevents shock, and renders the movements of the bones in joints smooth and easy.

Friction is not absent from our joints, any more than it is wanting in the articulations of a piece of ordinary mechanism. What the engineer effects by aid of his oil-can, that nature achieves in our own frames in as effective a fashion. Lining the joint-cavity, and closely associated with the other structures which enter into the articulation, we find the fourth element of a joint. This is the *synovial membrane* of anatomists. Its use appears to be that of secreting or manufacturing a glairy fluid called *synovia*, but which may, in the strictest sense of the word, be called "joint-oil." This fluid is poured out in sufficient quantity between the bony surfaces, and serves to lubricate their movements. Lastly, we discover in the neighbourhood of many joints, and also in other situations where much friction between two surfaces is seen, certain small pads, covered with "synovial membrane," and to which the name of *bursæ* is given. One of the best known of these "bursæ" is found in connection with the knee-joint. It is this bursa, which, when inflamed, gives rise to the affection known as "housemaid's knee"—a term applied to this ailment, because it is most frequently seen in domestic servants, in whom it is presumably caused by the irritation of the joint consequent upon kneeling in the act of scrubbing floors, &c.

COPPER AS AN ANTIDOTE TO CHOLERA.—At a recent meeting of the Académie des Sciences, M. Bouley drew attention to M. Burq's assertion that those persons whose organism is thoroughly submitted to the influence of copper, are as inaccessible to the attacks of cholera as those vaccinated are to small-pox. The following methods, according to M. Burq, are all equally efficacious, the habit of wearing copper bracelets, or bands which encircle the waist, or materials which have been steeped in copper solution, or the administration of black oxide of copper in the form of pills. At a recent meeting of the Academy of Medicine, M. Bailly furnished personal evidence which invalidated M. Burq's statement concerning the therapeutic value of copper in treating cholera. M. Bailly practises at Chambly, very near manufactories where spoons and forks are made with a copper alloy known as *alfénide*. All hands employed exhibit symptoms of the influence of copper; nevertheless, the ravages made in 1866 by an epidemic of cholera are subversive of M. Burq's hypothesis. During an epidemic of typhoid fever, fifty-six people were attacked; of these, twenty-six were impregnated with copper. Four of the twenty-six died; no other deaths were recorded. M. Bailly mentioned a fatal case of "charbon," consequent on a fly-sting; also deaths from diphtheria. All the sufferers exhibited symptoms of copper-impregnation. Summer diarrhoea, and also choleraic diarrhoea, attack those among the work-people who are thoroughly impregnated.



## The Family Circle

"The child is father of the man."—*Wordsworth*.

"In bringing up a child, think of its old age."—*Joubert*.

### SODA, A REMEDY FOR BURNS AND SCALDS.

By F. PEPPERCORNE, L.R.C.P., M.R.C.S.

(From the *Practitioner*.)

ACCIDENTAL burns and scalds, even when not very severe, extensive, or dangerous, commonly cause so much pain for an indefinite time, depending probably as to duration and severity a good deal on the age of the sufferer, and on the greater or less degree of sensitiveness of the individual's skin or constitution—not forgetting the feverish reaction, and the dangerous internal secondary inflammations that are apt to follow in some cases—that any easily applied and quickly available remedy and relief, without perhaps the immediate necessity of calling in professional assistance, will be acknowledged as a boon by most persons; and especially so, when it is remembered that the sooner the agonising burning pain in the part can be allayed, the less chance there is of dangerous secondary effects, besides sloughing, &c., so severely trying to children and old persons.

The usual first application to these painful injuries, whether so-called *popular* remedies, or such as are usually recommended by members of the profession, are numerous enough, but cannot unfortunately hitherto be considered as generally successful in giving certain and speedy relief from pain, and too often, intense suffering. One friend will recommend that the parts be covered with flour from the dredger; another will advise fine cotton-wool, or wadding; another, starch in powder, or soap, or treacle, or the so-called Carron-oil, &c.: but hardly one of such applications can be said to give more than very uncertain or temporary relief from pain; although, perhaps, by occupying the attention of the sufferer, they may in this way prove of some *mental* benefit during his sufferings; being, indeed, employed really for want of anything better; although, in fact, some of these applications, such as treacle, flour, starch, &c., prove so disagreeable in their after effects, being often difficult to remove and renew, as to add frequently to the poor patient's depression and suffering, owing to their adhering to the injured parts in dry cakes, very irritating to the raw surface.

It is now many years ago (see the *London Medical Gazette* of March, 1844) that the author of this paper, whilst engaged in some investigations as to the qualities and effects of the alkalis in inflammations of the skin, &c., was fortunate enough to discover that a saline lotion, or *saturated* solution of the bicarbonated soda in either plain water or camphorated water, if applied speedily, or as soon as possible, to a burned or scalded part, was most effectual in immediately relieving the acute burning pain; and when the burn was only superficial, or not severe, removing all pain in the course of a very short time; having also the very great advantage of cleanliness, and, if applied at once, of preventing the usual consequences—a painful blistering of the skin, separation of the epidermis, and perhaps more or less of supuration.

For this purpose, all that is necessary is to cut a piece of lint, or old soft rag, or even thick blotting-paper, of a size

sufficient to cover the burned or scalded parts, and to keep it constantly well wetted with the soda lotion so as to prevent its drying. By this means, it usually happens that all pain ceases in from a quarter to half an hour, or even in much less time.

Where the main part of a limb, such as the hand and fore arm or the foot and leg have been burned, it is best, when practicable, to plunge the part at once into a jug, or pail, or other convenient vessel filled with the soda lotion, and keep it there until the pain subsides: or the limb may be swathed or encircled with a surgeon's cotton bandage previously soaked in the *saturated* solution, and kept constantly wetted with it, the relief being usually immediate, provided the solution be saturated and cold.

What is now usually sold as bi-carbonate of soda is what I have commonly used and recommended; although this is well known to vary much in quality according to where it is manufactured—but it will be found to answer the purpose, although probably Howard's is most to be depended on; the common carbonate being too caustic. It is believed that a large proportion of medical practitioners are still unaware of the remarkable qualities of this easily-applied remedy, which recommends itself for obvious reasons.

**INFECTIOUS-DISEASE-PROOF COSTUME.**—There has been exhibited at the rooms of the National Health Society a novel dress, intended for the protection of sanitary visitors, nurses, and others, who have to enter the rooms of persons suffering from infectious diseases. The garment is of mackintosh, glazed inside and out, and completely to envelop the wearer, and with a hood to cover the head. Thus only the hands and face remain exposed—a matter considered of comparatively little importance, as these can be easily washed with disinfectants. A not less important object proposed to be effected by the use of this dress is that by its removal when the wearer leaves the sick-room the clothes which have been protected need not be changed, and the danger of the disease being carried from house to house or communicated to susceptible persons in public vehicles is obviated. A tight case for the fever dress to be enclosed in is part of the invention. At the end of the day, or as often as may be convenient, the dress can be cleansed with disinfectants. Further protection is given by a simple form of respirator. This is made of two folds of thin washing net, between which is placed a layer of medicated cotton-wool, through which the wearer can breathe, though no germs can pass. The respirator has tape strings, which tie round the ears. After use the wool is burned and the net washed.

**CHINESE MEDICINES.**—Although the prescriptions given a century or two ago by doctors here in England were very peculiar, they would probably have to yield the palm, as far as queerness of composition is concerned, to the following Chinese medicines, which are known as the five poisons:—Dried snakes, pulverised, 1 oz.; wasps and their nests,  $\frac{1}{2}$  oz.; centipedes, 3 oz.; scorpions, 6 oz.; and toads, 10 oz. These choice ingredients are ground into powder, mixed up with honey, and made into pills.

PEOPLE are slowly beginning to recognise the dangers that arise from bad drainage; that typhoid fever and dysentery, and many forms of bad sore throat make their way along with sewer gas; and when any such case arises in their families they will sometimes get a plumber to see to the drains, and, in his way, "put them right," but the experience of all engineers who have had house inspection to perform is terribly unanimous in showing the imperfect manner in which drainage is usually performed.

BARNES'S IMPERMEABLE OPIUM POULTICE, an effective and perfectly safe application for relief in neuralgia, gout, rheumatism, painful swellings, and lumbago. Prices by post 1s. 3d. and 2s. 5d. 1 and 2, Trevor-terrace, Knightsbridge, S.W.—[ADVT.]



## Healthy Houses

"A happy home must be a healthy home."—*Anon.*

### DRAINS AND HEALTH.

By G. E. WARING, JUN.

(From the *North American Review*.)

#### PART III.

HOWEVER completely we may succeed in preventing deposits in waste-pipes and drains, we cannot prevent the adhesion to their walls of more or less of the soapy, greasy, and slimy matters carried by their flow. With a perfect adjustment of diameters, and with the proper appliances for frequent flushing, such adhesions may be reduced to a minimum. However small the quantity so adhering, it is sure to enter into decomposition, and it is well known, or, rather, it is generally believed, that the extent to which such decomposition becomes noxious or innocuous is regulated only by the degree to which fresh air is admitted to it at all times. All waste-pipes and drains must have such a connection with the outer atmosphere as shall insure a supply of oxygen for complete decomposition at all points, and a reasonably rapid dilution and removal of the gaseous products of the process.

Concerning fixtures within the house, it is to be remembered that each additional one constitutes another channel of communication between the air of the house and that of the drain. The possibility of efficient protection at these openings is, at least, so well secured, that we need not hesitate to establish such fixtures as are required for comfort and for reasonable convenience; but there remains just so much question in the matter as to justify the recommendation that a luxurious profusion of plumbing fixtures had better be avoided.

The two vital points still to be settled are:—First, an absolutely effective means for maintaining the integrity of traps; and, second, such an arrangement of vessels, traps, and waste-pipes as will ensure the complete discharge beyond the house walls of all matters delivered into the waste-pipes without the possibility of their being long retained in traps or elsewhere on their way. Thus far we are at sea as to the first of these requirements. Some endeavour to satisfy it by trap ventilation, and others by the use of mechanical traps, both of which methods, as now carried out, have demonstrable defects. The uncertainty here involved constitutes to-day the chief unsolved problem in the work of house drainage. It is here more than anywhere else that the most skilful and experienced judgment is required in the arrangement of plumbing work.

The water-closet has undergone a transformation since improved drainage began to attract attention in this country, which has brought it within measurable distance of practical perfection. The universal condemnation of the pan closet by every respectable authority, if we except the Boards of Health of the larger cities—and there are good reasons for their present inaction—is secured. Just apprehension as to its dangers is widely disseminated and deeply implanted. Its introduction in new work must soon be prohibited, and its retention in old work cannot last very long. The defects which are most marked in this apparatus exist in a modified degree in some other closets which still meet with favour; but the march of improvement is entirely in the direction of closets which have no moving parts, which require a very copious use of water without waste, and of which the outlet channels are free from enlargements, or recesses not subject in every part to a

thorough cleansing every time they are used. The simplest of these, and in many respects one of the best, is the plain "hopper" with a bent trap below it supplied with such a volume of flushing water as to ensure complete washing. Another common fault recognised and appreciated by all authorities is the supplying of closets by valves directly connected with the house supply. The importance of the interposition of a flushing cistern is getting to be well and generally understood. On the whole, we may say that, so far as water-closets are concerned, the interests of the public are taking care of themselves in a most satisfactory manner. Economy and indifference will necessarily retain in use the great mass of improper apparatus until it shall have worn itself out; but new construction and renewal of old work will in time overcome existing difficulties.

The majority of even the best houses are now very badly drained, and are subject to the production of "sewer-gas" at many points between the outer wall of the house and the fixtures within it. Occupants are generally careless or ignorant of this fact, and the verdict of "my plumber" is still considered by the average house-owner a sufficient certificate of good sanitary condition. Large traps, clogged with accumulations of putrefying kitchen-waste, soapy compounds, faecal matter, &c., are still the rule rather than the exception. Defective pipes and more defective joints, involving often the escape of drainage drippings, or of drainage exhalations, exist very widely. Most drains still run under the cellar-floor, and such drains are almost invariably very faulty. All of these things, however, are slowly being changed, and the change is, practically, always in the right direction. In some cases where the local sewerage is very bad there is doubtless a certain amount of contamination of houses by the gases resulting from decomposition in the sewer. Few modern sewers, however, are seriously open to this charge, and proper ventilation of soil-pipes is, when accompanied with good plumbing work, a sufficient protection against danger from this cause, when the cause exists. The important lesson to be taught is that most of our sewer-gas is home-made. Bacterial growth in sewers is a newly-mooted subject, of which the mootings is thus far the only real progress; but this is real progress.

In the sewerage of towns all will admit that great advances have been made within the period under consideration. The better works referred to on a previous page may be regarded as the models on which construction is generally planned. In execution the best plan often fails of proper carrying out, because of the not yet entirely obsolete ignorance and stupidity of the newly-elected sewerage committees of local governments, and because of the almost universal misconception of the meaning of the word "economy," coupled with a notion that public works are always most cheaply and honestly executed when let by contract to be lowest bidder. The only economy in works of this character, especially as they are forever hidden from view, is to be sought in absolutely faithful and excellent construction with the best attainable material. The extra cost of building sewers in the best manner is not worth a moment's consideration as compared with the wastefulness and grave sanitary danger which usually attend lowest-bidder construction.

I am a firm believer in the superiority, under most circumstances, of the separate removal of house-drainage through small vitrified pipes; but I believe that large brick sewers properly arranged and constructed are—bacterial growth apart—better and safer, as they are also vastly more costly, than pipe sewers, as these are usually laid. It is true that brick sewers leak and frequently contaminate the soil; but the ooze from their



walls is of much less consequence than the direct delivery of a stream of sewage at every joint with improperly laid pipes. I believe, of course, that the system that I have carried out at Memphis and elsewhere, of using very small, tightly-jointed pipes, thoroughly washed out once or twice a day by automatic flush tanks connected with the water supply, is as much better than other systems as it is cheaper; but I believe, nevertheless, that perfect workmanship is better, from a sanitary point of view, than a perfect plan. The demonstration of the truth of these convictions afforded by good examples of work executed in this country during the past ten years, cannot fail to have its influence on future sewer construction, and we may regard our future in this respect as well assured.

The importance of the removal of the water of saturation from the soil in and about the house, and generally in malarious districts, is becoming better and better understood, and malaria must ere long become practically obsolete in the older settled portions of the United States, as it already has in its old haunts in England.

In studying the difficult questions involved in the ultimate disposal of sewage, the public has yet to appreciate the importance of immediate removal. Of course, even the freshest and most recent sewerage ought not to be delivered where it can contaminate adjacent streams or bodies of water; but real contamination is very greatly in proportion to the degree to which sewerage has been permitted to decompose on the way from the fixtures in the house to the outlet of the main sewer. As in the house, so in the town, complete removal before decomposition should always be the rule. When water-carried waste matters are delivered in this fresh condition, a very large proportion of their organic constituents is consumed by fishes, and the lower order of life and the decomposition of such matters as float in the well-aerated upper portion of the water is complete and rapid; but the rule must in time prevail, that no sewage shall be delivered into stagnant waters, along shores, into harbours, or into streams which carry it past other communities which would suffer from its ultimate decay.

### CARBOLIC ACID AS A GERM-KILLER.

DR. WILLIAMS has the following important remarks on the value of carbolic acid in consumption:—"Those practitioners who firmly believe in the antiseptic, or rather germicide, virtues of carbolic acid in phthisis, will do well to consider the statement of Mr. Watson Cheyne, reported in the *Practitioner*, April, 1883, p. 285, Experiment xiv., No. 3, 'One part of the fluid containing bacilli was mixed with one part of a 5 per cent. watery solution of carbolic acid; this stood fifteen minutes, and was then injected into the left eye of a rabbit.' After forty-three days the animal was killed and found to have tubercular iritis of both eyes, and with a considerable number of minute tubercles

in both lungs, one of which showed commencing caseation. The liver and spleen also contained tubercle. Microscopic examination showed abundant bacilli in all these organs. Here the influence of the carbolic acid was brought to bear on the bacilli in a far stronger and more intimate way than is practicable for application to the human body, except we are prepared to follow Dr. Fränkel's example and inject it and other antiseptics directly into the lungs through the chest wall, and the results of this mode of treatment, as practised by him, are not very encouraging. In Mr. Cheyne's experiment the carbolic acid seems to have exercised no influence whatever on the bacilli, which continued to prove their vitality by largely multiplying in the inoculated animal, and this shows the great importance of first studying the conditions of life of these low organisms outside of the human body, and then of testing the effects of various antiseptic drugs on them. In this way we may discover substances fatal to the bacillus, and then proceed to devise methods of applying them, so as to reach and attack the enemy in his strongholds of the human body. But this knowledge can only be attained by long and careful investigation, and the work of many patient observers."

CONSUMPTION.—The continuously high temperatures in which formerly our consumptive patients were condemned to live, were the very worst conditions with which to surround them. Consumption is a much more rapidly fatal disease in hot than in cold climates, and it is probable that it is more truly infectious. The Italians treat it as if it were almost as infectious as scarlet fever or measles, and we must ascribe its less prevalence there to the almost open-air life the inhabitants lead. The evil practice of heaping upon the beds at night the clothes that have been worn in the daytime, or even, as some do, of wearing the same underclothing day and night is most pernicious, and likely to breed consumption in those who live in houses where this practice is pursued.

SOME curious particulars regarding the "balance of the sexes" in German and other cities are noted by Mr. Gosselin, Secretary to the British Embassy, in his report on the recent German census. For a century in Berlin the female sex has been in a minority, and even as late as 1871 there were 98 females only for 100 males. Since then the almost traditional preponderance of the latter sex has been completely lost, so that in 1880 the proportion in favour of the females was 106.45 to 100. This change, it is added, cannot be attributed to a decrease in the number of troops, the fact being rather the other way. Comparing this with other cities, London stands pre-eminent in the preponderance of females, the proportion being as 113.7-10 to 100. On the other hand, in Paris, in 1876, there were only 88½ females to 100 males; in St. Petersburg (1881) 80.8-10; in Rome (same year) 79½.

SOME interesting details reach us from a foreign source respecting the growth of the heart. That organ is stated to make its greatest strides in growth during the first and second years of life. At the end of the second year it has doubled the bulk with which it begins its career; and between the second and seventh years of life its bulk is again doubled. An increase in size is said to take place up to the fiftieth year of life. This is what might be expected in the case of an organ whose work is so largely continuous—in one sense, at least—as in that of the heart. The heart in childhood is of equal size in the two sexes; but the male heart in time develops more largely than that of the female.

MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopaedic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]



## Scissings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, little care."—*Sir Philip Sidney.*

**ANIMAL INTELLIGENCE.**—Adopting the terse language of Shylock, we may ask, Hath a dog reason? And, falling into a more lengthy style, we may inquire, Is its reasoning at all comparable to that of the human being? We think both these questions must be answered in the affirmative. Those who differ from us will certainly admit that the possession by man of a language of symbols must have an enormous influence in increasing the power of his intellectual faculties. So much, indeed, must this be the case that what is really only a difference of degree is yet so stupendous that an intellect, the product of the employment for ages of word signs, might be thought to be an altogether new and original faculty. We are inclined to assert, however, that almost the sole essential difference between the intellect of the dog and that of the man may be traced to the above cause. A dog can reason, but not by using symbols. It employs the mental picture of an object, the olfactory perception of an agent, the auditory impression of a sounding body for the terms of its premises. But clumsy as these may seem, yet the mind of the animal successfully grapples with them. The dog argues from the ideas of concrete things, although incapable of abstraction and of the formation of a conception. Devoid of generalisation, it deals with particulars; but it does reason; it substitutes one idea for another; it weighs and estimates at their true value the successive mental images which present themselves to itself. Every one knows the tenacious memory of the dog, not only for what it has seen but for what it has smelt and heard. The olfactory sense in many species is truly marvellous, and its mental grasp or memory of the same is remarkable in an equal degree. No division can scientifically be drawn between the memory of a landscape by a dog and the recollection of a region by a man. Moreover, the dog is not simply a mechanism, the result of hereditary action. The individual can learn new things—nay, even execute complex mental feats for itself. The following instance, which forcibly illustrates the power of the reasoning of the dog, came under our personal notice. A gentleman last season bought a middle-aged blue pointer, which with his good qualities as a "wide ranger" and "staunch pointer," combined the faculty of retrieving partridges. When the snipe season commenced in October the dog took no notice whatever of the "long-bills," but looked upon them as vermin, and drove them away. After being out about six times snipe-shooting, finding that his master shot these birds, the dog stood at each snipe, and, when killed, dropped it at the sportsman's feet. The instance is certainly remarkable. Such a faculty of ready apprehension and creditable performance of a difficult mental task (for it must be remembered that he had his hereditary influences to overcome) would have been hailed with delight had it been manifested by a child who had not the knowledge of spoken language.—*Lancet.*

\* \* \*

**CHILD-ACROBATS.**—The police-courts have lately made public several instances of revolting cruelty suffered by little children in the course of their training for performance as acrobats. It appears that in the present state of

our civilisation, the supply of acrobats is a steady public demand, and that many British children of very tender years are regularly devoted to the acrobatic business, to be systematically trained, while their limbs and joints are yielding, by a long process of painful exercises enforced by punishment and privation, for the gratification of a debased public taste by their performances as "human serpents," tumblers, and contortionists. Mr. Charles Mylne Barker, who acted as honorary solicitor in the proceedings taken some time ago by Mr. Littler, Q.C., and his friends, regarding a number of young English children found living in slavery, or quasi-slavery, at Constantinople, writes to the *Times* to express his disappointment that a short Act of Parliament has not been passed during the recent session, making it illegal for any infant child of twelve years of age or under to be apprenticed to any trade or business without the consent of a magistrate. Mr. Barker states that, with the assistance of the authorities of the Criminal Investigation Department, he had made several inquiries as to the manner in which infant children being trained as acrobats were treated when out of the jurisdiction of English courts; and it was found that, in many instances, the treatment was harsh in the extreme, especially when the children did not take kindly to their calling; and it was believed that a child was actually killed in Spain; its back having been broken by the cruel treatment to which it was subjected. Mr. Barker thinks that some philanthropic Member of Parliament, at a time when so much public sympathy is expended on the sufferings of pigeons, might have carried through a short Bill such as he had indicated.—*British Medical Journal.*

\* \* \*

WE have in Liverpool 2,500 "courts," as they are called, inhabited it is supposed by 150,000 people. The sanitary condition of these confined and unhealthy *culs-de-sac* is very bad, and the death-rate excessive; and the want of appliances for decency so great that it is scarcely possible to conceive of respectable family life existing in their midst. There are occasionally to be found decent and well-conducted families even in these cheerless abodes; but the general aspect of the people is lamentable, and is a disgrace to our age and a danger to the State. No doubt Liverpool is exceptionally situated, as it contains a large Irish population of the poorest class, who came over after the famine in 1847, and gravitated through utter poverty into the lowest parts of the town. Many of these people lived a respectable life in the rural districts of Ireland; but when they came to Liverpool they succumbed to the pestilential atmosphere they had to breathe. Indeed, it would be almost a miracle for people to maintain their self-respect in many parts of our city, so foul are the language and habits of the people, and matters would have been much worse but for the great temperance movement, headed by Father Nugent. This corruption of manners is by no means confined to the Irish; very many of the English are quite as bad; and there is a considerable residuum of drunken Scotch and other nationalities. The casual labour along the docks, and the absence of suitable employment for women, aggravate the difficulty in Liverpool, and the excessive drunkenness of large sections of

"HOW TO OBTAIN LIGHT FROM COAL GAS," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."—[ADVT.]



the population of both sexes make their moral and material elevation almost impossible. I have no wish to cast any reflections upon the activity of the churches or the benevolent agencies in our midst. The Corporation has also done much to improve the sanitary condition of the town; but the execrable social conditions amid which the poorest part of the population live, defeat all attempts to apply a thorough remedy, and they will defeat them so long as these conditions exist.—*Samuel Smith, "Nineteenth Century."*

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TREATMENT OF SCURVY has lately been studied by A. Szikszay. As prison physician he had large opportunities. Acting on Garrod's view, that the disease is due to a deficiency of potassic salts, he prescribed various salts; the chloride, iodide, and tartrate of potassium were inefficient, but the acetate of potassium produced an improvement, after so small a dose as ten grammes. About one gramme was taken every hour without unpleasant accidents. The cure required from eighteen to thirty-eight days, on an average twenty-nine, while the duration of other treatments was two to five months. An analysis of the blood showed an increase of potassic salts during the treatment.

## Our Bookshelf

"Reading maketh a full man."—Bacon.

### PHYSIOLOGY FOR THE YOUNG.

*The House of Life: Human Physiology, with its Application to the Preservation of Health.* For Use in Classes and Popular Reading. By MRS. FENWICK MILLER. (London: Chatto & Windus, Piccadilly.)

THE teaching of physiology (the science of the functions or duties of the different organs of the living body) in schools, and the acquirement of a knowledge of elementary physiology by the masses, are two features of modern educational movements which are regarded, and rightly so, by health reformers as the basis of all sanitary progress. It is easy to see why so much stress should be laid upon the teaching of physiology in schools, and upon the acquirement of physiological knowledge by the people at large. "Health" and "disease" are mere names without significance to us unless we know something of the natural functions of our frames. We must first, as a matter of common sense, acquire information respecting the body and its structure before we can form any adequate idea respecting the nature of the disturbances in function which constitute "disease." To the lack of such rudimentary information may be traced the vast want of common sense in ideas respecting the cure of disease entertained by the multitude around. When people, reading the advertisement of a quack medicine, for example, are found expecting that one nostrum will cure everything, from consumption to an ulcerated leg, the health-reformer is perfectly justified in declaring that only a knowledge of the normal functions of our frames will repress quackery and extinguish the quack. Again, the simplest laws of health cannot possibly be appreciated without physiological knowledge. It is true we may know that to re-breathe our own breath is hurtful and dangerous. We may be perfectly aware of the fact that abuse of food and drink leads to indigestion; that severe strain is likely to cause heart-disease; and that want of skin-cleanliness will ensure a huge crop of bodily evils. These facts may be known as mere facts; but when we desire to impress them on the mind as part of a great system of health-laws, it becomes clear that we

must do something more than merely state the facts in question. We must relate them one to another, by showing the reasons for the facts, and by demonstrating how disturbance of the natural work of the body is tantamount to the production of disease. This necessary information is not difficult to obtain. Experience proves that an intelligent boy or girl of twelve or thirteen will, under judicious teaching, acquire a very considerable amount of solid health-knowledge. It is the good fortune of the present generation that we are supplied with numberless books professing to teach the rudiments of the science of human structure and functions, and we are glad to be able to accord to the volume before us a high place in the ranks of educational manuals.

With the exception of the concluding chapter of the work, in which the details of that most interesting part of the bodily structure, the skeleton, are somewhat sparsely treated, the volume may be described as a cheap and handy guide to an acquaintance with the broad facts of human life, viewed in a physical sense. The authoress writes pleasantly and fluently, and seems to have been inspired with the true spirit of the teacher. The result is that her book is such as we should with confidence place in the hands of any intelligent boy or girl who may be "wanting

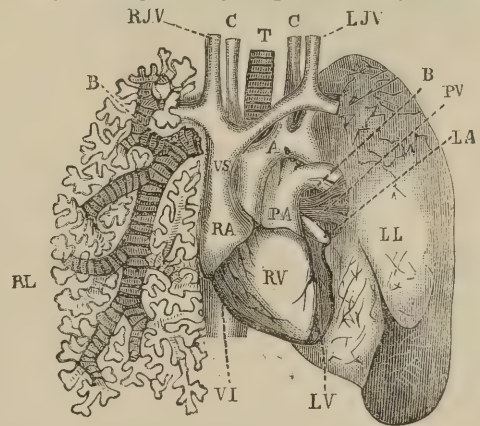


Fig. 1.—The Heart and Lungs (the Right Lung has been dissected to show its structure).

to know" how the body's duties are carried on, or who, under the guidance of a teacher, is making acquaintance with the broad and interesting facts of physical existence. The book will also be highly acceptable, we think, to adults who, ignorant of the wondrous details of their bodily life, may reasonably desire to repair such an omission in their education, by reading a treatise devoid of technicality. An admirable feature of the work is the frequent reference made by Mrs. Miller to the connection between physiology and health. In her opening pages she contrives to instil the lasting truth that an immense number of lives—stated at 120,000—are yearly sacrificed to the ignorance of common health-precautions. With such a fact before us, and with the knowledge that these deaths are "preventable," in the truest sense of that term, there seems need of no further argument to instil the idea of the teaching of physiology as an essential part of modern school-training.

In her descriptions of the various organs and their functions, Mrs. Miller has adopted a style likely to be much appreciated by learners, while the illustrations which are found in the text amply suffice to render clear the more technical parts of the subject. A favourable example of the style of the book is found in the chapter on "Respiration," or breathing. Here the lungs (Fig. 1) are fully described, as also are their connections with the heart lying between them, and the curious structure shown in



the right lung (R L) of the figure. As a sample of the instruction dispensed by Mrs. Miller, we may quote her account (p. 13) of the mechanism of breathing. Having noted that the midriff, or *diaphragm*, is the great muscle forming the floor of the chest, Mrs. Miller tells us that "the centre of the diaphragm is tendinous, and has not the power of contraction; but all round its sides, just where

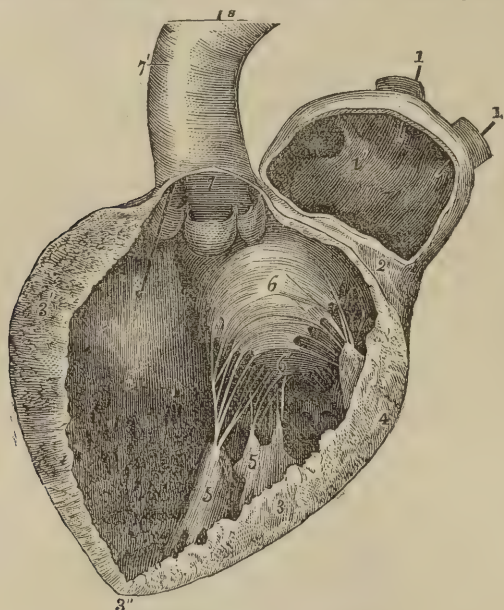


Fig. 2.—The Left Side of the Heart, showing the Valves.

the lungs are fastened on to it, it is made of muscle, and this contracts. The diaphragm, you remember, is shaped like an arch across the centre of the trunk of the body. When the muscular fibres of the sides of this arch all contract, becoming *thicker* and *shorter*, it is clear that the arch must become *flatter*; and, in doing this, it necessarily drags down the lungs, which are fastened to it, and puts their elastic tissue in the stretch; the air-tubes are thus filled again, and the air rushes into them to

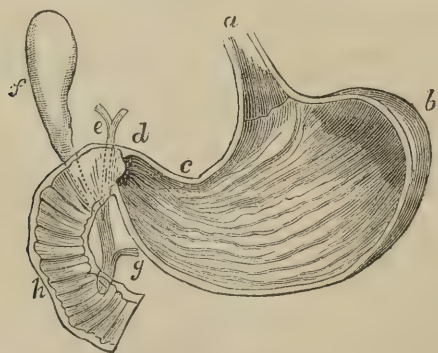


Fig. 3.—The Human Stomach, Gall-bladder, and Intestine (in part.)

occupy the space so produced. But presently the diaphragm leaves off contracting; then the elastic tissue of the lungs, no longer kept upon the stretch by the pulling down of that muscular arch, does just as a piece of elastic outside the body would do when one left off pulling it—it returns to its original size. But in doing so, it must press upon the air cells and bronchial tubes, and squeeze out again from them some of that air which had space to come in when the elastic tissue was pulled down by the diaphragm." Although, perhaps, in strict anatomical and

physiological parlance, objection might be taken to the expressions which indicate that the lungs are "fastened" to the diaphragm, or midriff, yet this description gives a lucid enough idea regarding the movements in virtue of which the act of breathing is carried out.

The description of the heart and its valves is also clearly given in this little volume. The left side of the heart (Fig. 2), with its auricle, or lesser chamber (1<sup>1</sup>), and its ventricle, or larger chamber is duly described; the right or duplicate side, with its two chambers, being also illustrated. The valves of the right side, consisting of the *mitral valve* (Fig. 2, 6 6<sup>1</sup>) and the *semi-lunar valves*, placed like three pockets at the entrance to the *aorta* (7), or great main artery of the body, are shown (1). Any student reading attentively Mrs. Miller's account of the work of the mitral valve in preventing the blood returning into the auricle (1<sup>1</sup>), and of the other valves in preventing its return into the ventricle, will gain a clear idea of a part of human anatomy, usually esteemed of highly technical nature. The sections on "Food" and "Digestion" are also

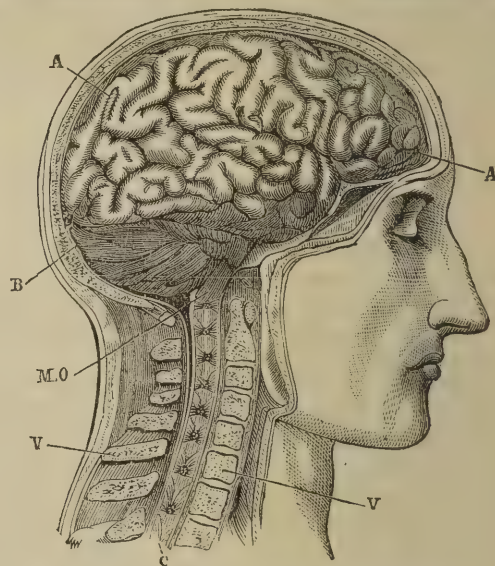


Fig. 4.—View of Brain and Spinal Cord (*in situ*).

fully treated. The stomach (Fig. 3), with the first part of the small intestine (*h*), are duly depicted, and the work of the liver and its bile-receptacle, the gall-bladder (*f*), will be clearly understood from the descriptions given. The nervous system meets also with careful notice; and such a view as that given in Fig. 4, of the brain, with the cerebrum (*A*) and cerebellum (*B*), the medulla oblongata, or top of the spinal cord (*M.O.*), and spinal cord (*C*), serves as a useful introduction to the detailed account of the functions of these organs. Not the least interesting of the points we have noted in Mrs. Miller's work, is her frequent reference to facts drawn from ordinary life concerning the preservation of health. For example, in her remarks (p. 111) on the care of the skin, it is mentioned that, "In the last century there lived two exceedingly beautiful young ladies named Gunning. They were so lovely that they were mobbed, when they walked in Hyde Park, by their admirers. One of those beautiful girls died early in life from a cancerous disease of the face, caused by her painting her cheeks, when late hours and hot ball-rooms had removed the natural bloom which she brought from her native Irish hills and dales. This is a high price to pay for a little fleeting admiration."

We can cordially recommend this volume as a class-book in schools, and likewise as a help in private study to a



knowledge of those great facts of human physiology which form the basis of all sound health-knowledge.

*Merry Matches.* A capital round game for children.

London: Wyman & Sons, 74, Great Queen-street, W.C. THE due amusement of our leisure hours is always a matter of moment in so far as health is concerned, and the entertainment of young folks is, in its turn, a high aim of health science. In this neat-looking packet of cards, tastefully designed from the nursery rhymes of childhood, the elements of an amusing game may be found. The game is allied to the "quartettes" of former days, but its interest for children is much enhanced by the fact of the cards dealing with legends and rhymes familiar to all. We anticipate much amusement in the winter evenings from the use of this game in the amusement of young folks, and of "children of a larger growth" as well.

## Sanitary Appliances, Etc.

MESSRS. PURNELL'S SANITARY APPLIANCES.—The demand for effective sanitary appliances has resulted in the production of a vast number of inventions—good, bad, and indifferent. Amongst those firms which stand out prominently as manufacturers of sanitary apparatus of a useful, solid, and reliable description, Messrs. Purnell & Son, of 15, Kensington-place, Page-street, Westminster, hold a high place. We have long been familiar with their "Syphon Water Waste Preventers," which are adapted to flush closets, drains, &c., with a certain efficient amount of water, and which are set in operation by simply pulling a handle. The automatic action of the apparatus forms an important feature in this invention, since no further time or trouble is required to be bestowed on the flushing, beyond the pulling of the handle. The objections urged against the closet systems, and which are founded on waste of water, are thus entirely obviated by Messrs. Purnell's invention. The other sanitary exhibits of this firm, including their covers for "manholes" in drains, &c., and their closet-basin, are also well worthy the attention of all who feel an intelligent interest in the sanitary fittings of houses.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

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## LETTERS TO THE EDITOR.

### SHOPWOMEN AND DRESS.

SIR,—Your correspondent "W. H. H.," in your issue of Sept. 7th, speaks of rational dress as a remedy for the sorrows of shopwomen. It appears to me that we shall require to cultivate rational dress ideas of dress in the minds of *employés* themselves before we can succeed in liberating them from the trammels of conventionality by which they are beset. If I might be allowed to add one remark, it is this: that "W. H. H." is looking too far ahead for the present generation. Who among us will venture to predict the adoption of a "graceful Eastern trouser, with a short drapery coming a little way below the waist," as a likely fashion, say, even fifty years hence? Reform, to be sure and lasting, must be gradual, like the processes of evolution themselves; and

there may be as much evolution involved in the development of a new costume out of our present garments as in, say, the growth of a one-toed horse out of a five-toed animal. To contract the "waist" *à la* the insect world, is, of course, an offence against health; but at present we want the first stages of the new evolution which is to lead to "rational dress"—not an "Eastern trouser" or a "short drapery." Will some "rational dresser" supply the desired link? At no Exhibition have I seen any dress that will perfectly suit the public taste as such a link; for I need not say that to the majority of sensible women, another woman clad in discernible trousers is not elegant, however healthily correct she may be in dress.—I am, sir, yours truly,  
A WOMAN.

SIR,—The "Rational Dress" advocates seem hardly to know their own minds. One sect wants a wide trouser, another a narrow trouser, and a third an "Eastern trouser." Where are we going to end? When reformers differ, who shall agree? As a mother, I frankly prefer to see my daughters elegantly clad, corsets included (although no tight-lacing is permitted by me), and I simply speak the mind of nine-tenths of Englishwomen when I say that the cry over "rational dress" is absurd and undignified. The shop-girls "W. H. H." writes of are no worse off in the way of dress than those above them in the social scale. "W. H. H." does not appear to see that it is possible for a woman in any rank of life to dress elegantly enough, and yet to avoid tight-lacing or undue compression. If nothing remains for us but the "Eastern trouser," then, say I, let us keep as we are—tight-waists and all.—Yours truly,  
London, Sept. 13, 1883.  
MATRON.

## QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending HEALTH to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.

We must also request correspondents who write enclosing stamps for copies of HEALTH, to address their inquiries to the Publisher, and not to the Editor.]

[Correspondents will please note that Queries addressed on Postcards are consigned to our waste-paper basket. If information is worth having, it is at least worth a letter.]

### GENERAL.

EASY.—Certainly not: no occasion for such a remark.

BETA.—Interesting, but unsuitable.

KATE B. Certain glands in the intestine which are affected in typhoid fever.

ERIN.—Chlorophyll is the green colour of plants.

ABACUS.—See No. 21, HEALTH.

DOULD G.—Write to Chatto & Windus, 214, Piccadilly, W.

B. ARGAND.—In our experience the finest anatomical models for teaching purposes are to be had from M. Tramond, 9, Rue de l'École de Médecine, Paris.

JOHN BOWERS.—Many thanks for the cutting, of which we have made use.

PHILANTHROPIST.—Messrs. MacLachlan & Stewart, South Bridge, Edinburgh, are the publishers of Combe's works. Read Dr. Carpenter's "Mental Physiology." Your course of studies has been too diffuse. Better leave medical jurisprudence to experts.

MEMORY.—Yes; we have full confidence in the system. It can be taught perfectly by correspondence.

HAWICK CALLANT.—The belt and knee-caps (which have been returned to you) are in no sense "electric," and as regards their magnetic qualities, what Mr. Carpenter has so lucidly said in his second paper (HEALTH, No. 20) applies to these and all similar articles. They are electrical frauds and shams.

### SANITARY.

KENSINGTON.—1. Yes; the results in physiology were published in June last. Address the Secretary, Science and Art Department, South Kensington, London, S.W., for your result. 2. We have heard of the "food" you name, but do not regard it as in any way superior to other foods. Lloyd's "Food" is, in our opinion, one of the best.

C. SMITH.—We have given orders for a copy of HEALTH to be sent to your school. Let us know if it is received weekly.



JOHN E. SLATER.—Referring to your note regarding the disinfectant alluded to in HEALTH in "London Smells," we hardly think you could have procured *nitrate of lead*. The solution can be made as directed without difficulty. See that your chemicals are pure and of the quantity and kind named. The chemical action described takes place as a matter of certainty, if the chemicals named are used.

### MEDICAL.

R. HENRY.—In a case such as that you describe, we have employed Carnrick's "Beef Peptonoids" with great good. It is free from all the objections to beef-tea, and when flavoured with salt and pepper, is really very agreeable, and most nutritious. "Kerachyle" is also an excellent preparation.

IRENE MAYNARD.—All iron preparations have a tendency, more or less, to produce constipation; but *Fer Bravais* or Wyeth's "Dialysed Iron" is free from this objection to a very large extent. The slight action seen in some cases after their use is not present in others; and when present, may be easily counteracted by a little "Æsculap Water."

L. TRUTH.—Take the tonic recommended to "Fides" in the present number of HEALTH. Sleep on a hard mattress, and avoid taking fluids late at night. The specks before the eyes are simply a symptom of a little digestive disturbance. For the heat of body, give up your brown bread, and try change of diet for a time.

T. A. R.—What we said of your general health applies again. In event of your not being bettered, there remains a form of "mechanical" treatment which any surgeon will apply. The pain you experience is an ordinary symptom, but we should strongly recommend you to rest absolutely for a time.

HEALTH.—No; it is not advisable to take tonic and Strathpeffer waters both. Give up the tonic, and see whether or not the waters agree with you.

M. MONTGOMERY.—Yes, you were right in supposing that we regard the symptoms you name as perfectly natural to healthy persons. The letter we enclose is from a firm of quacks whose wags you did well to fight shy of. The secretion you speak of as occasionally observed by day, is not what is usually supposed. Take the tonic recommended to "Fides" in present number, and try cold sponging. The step you purpose taking in the future is perfectly justifiable.

PIERRE.—You must persevere in strict attention to your general health, and in everything that tends to your cheerfulness. The secretion you mention in a postscript is not what you suppose it to be, or what quacks tell the deluded persons who consult them it is. For the flushing, rest after meals, and try a little "Æsculap" occasionally. Hunter's pamphlets are well-known quack productions, and the other is of the same class. Don't drink so much tea, and don't eat late at night. Yours is not a case for medicine at all. Simply wise living and absence of stimulation will cure you.

JUVENIS.—We can only repeat our previous advice to you, and say that you should eat well, but not too hastily, and rest after meals. Don't bolt your food, but masticate thoroughly. Try the effect also of a little of Morson's "Pepsine," taken as directed on the bottle. This last will possibly relieve all your symptoms.

JOCHIM.—Try the following lotion: oxide of zinc, two drachms; calamine (white, not red), half an ounce; perchloride of mercury, one grain; glycerine, two drachms; elder-flower-water, four ounces; rose-water, add to make up eight ounces. Mix for a lotion; for external use only. Apply three or four times daily with a small sponge and allow to dry, dusting off the powder that may remain with a pocket-handkerchief. Avoid tea, attend to state of bowels, take frequent warm baths. Write again if unsuccessful. Your general health will require careful attention. Mere local applications are useless without attention to the health at large.

TYNE.—We should imagine that your period of life might have some little effect in causing the affection; but your case, in so far as the paralysis is concerned, is decidedly one for the constant and watchful care of a physician, who may be able to do much to relieve symptoms as they threaten.

A. R.—No; the operation is not dangerous, and does not necessitate a long withdrawal from active life. As a rule, it is the only radical cure; but we recommend you before thinking of an operation to try the treatment recommended to "Fyde" in present number. See that the bowels are attended to by taking "Æsculap."

ANXIETY.—We believe that if you can stand cold sponging of the chest, and friction thereafter with a hard, dry towel, each morning, you will certainly lessen your liability to cold. Failing this, clothe warmly in flannel, and avoid overheating and chills, and sleep in a well-ventilated room. Cod-liver oil and fatty food generally should also assist you.

J. L. L.—Please send us a description of your symptoms. It is

not clear from your note that you suffer from the disease you name. We cannot advise you without a full account of your affection.

P. R.—Yes: Rowlands' Macassar Oil is one of the best preparations for the hair, and would suit your case exactly. The "Oleauqua" now commonly sold is also good; or if a little pure olive oil be added to Bay Rum, a suitable mixture (to be well shaken) may be made.

TREBLA.—Cases like yours are best treated, firstly, by rest and remission of all the duties you name for a time; secondly, by cold sponging of the parts each morning; thirdly, by the tonic recommended to "Fides," in present No.; and, fourthly, by careful attention to general health. You suffer from no disease, and time and care will accomplish your cure. Write again if not relieved after following advice. Send name and address, as we never recommend practitioners by name in HEALTH.

CHRISSE.—We should recommend you to try the effect of the inhalations of tincture of iodine or of Friar's Balsam recommended to "W. Scott," in present number.

CELIBACY.—The electrical destruction of hairs, so far as we know, is only practised by specialists in skin and hair diseases. Inquire in your city of any duly-qualified practitioner (e.g., the Professor of Clinical Medicine in your University) or skin-specialist.

M. J. W.—You will find the information you require in our papers on the "Hair," published in Parts I., II., and III. of HEALTH.

GWALLA.—Try the effect of hot salt hip-baths, and take 15 grains bromide of potass on going to bed each alternate night for a week. Write again if pain still continues. Drink potass water through the day, and avoid stimulants.

LIJAS.—See advice to "J. J." in present No. of HEALTH. Your symptoms are entirely due to weakness, which time and care will cure. Take the tonic recommended to "Fides" in present number; sponge each morning with cold water; sleep on a hard mattress; avoid suppers; and sleep in a well-ventilated room. Cultivate cheerful society, and, above all, don't grow morbid. Write again if not relieved.

EYESIGHT.—Consult a good oculist at the infirmary or privately. You evidently require careful advice regarding spectacles, and you should see to your condition without delay. We do not think the cause you assign will account for your failing sight, but, in any case, follow our advice. A little care will probably put you right.

HOPEFUL (Perth).—The medical opinion you mention regarding the secretion was a perfectly correct one. We suspect from your account that you require a thorough medical examination, and we counsel you to seek this without delay. A physician will be able in your case to examine the state of the kidneys, which forms an important point in your history.

A HEALTH-SEEKER.—[Will please note that the addresses of HEALTH Office and Editor are in London, not in Edinburgh. It should be easy to exercise a little attention regarding such a detail from the weekly announcement of regulations for correspondence given in HEALTH.] Your queries are much too numerous. If all our correspondents asked as many questions in one breath as you do, we should require to engage an extra staff of contributors to reply thereto. We answer your first query and your last. Keep the skin clean; use hot soft water and Pears' soap, and the lotion as ordered. Attend also to your general health. Yes, "too much tea" is injurious—"too much" of anything usually is.

W. MIDDLETON.—Thanks for yours received, and for quack pamphlets. Glad to hear that in Preston, as in Sheffield and Dublin, the diffusion of quack literature is regarded as a crime.

L. HAWORTH.—Your symptoms will probably be relieved by hot salt baths, taken at night, twice or thrice a week. Avoid chills thereafter; and write again if not improved.

RUFUS.—The step you allude to need cause you no concern, presuming that both sides are healthy.

HAMLET.—The "Spécialité" lime juice can be obtained from Messrs. Felton & Sons, Albemarle-street, London, W. Write to them for a list of their agents.

MARG.—Touch the spot with lunar caustic, or paint it daily with tincture of iodine.

CUTICLE.—Paint the threatening tender parts with white of egg, or wash with brandy and water or spirits; relieve pressure by the use of an air-cushion.

A MEDICAL STUDENT.—1. The pamphlet is, of course, a wretched quack production. 2. The value of smoking as a habit bears a strict relation to the individual's constitution, health, &c. Judge carefully by the effects of the habit on yourself of its utility as a sedative or stimulant.

J. R. MERRIMAN.—What you mention, you should know, is a natural occurrence in health. You do not suffer from any disease, so dismiss that thought. If you do suffer, the cause is merely a mental one. Don't grow morbid or fidgety. Use the cold sponge bath each morning, and live plainly and without stimulation.



Yours is a case in which quacks (such as those whose pamphlets you send) would persuade you that you are seriously ill; but your good sense ought to protect you against these scoundrels. Tricycle-riding would have no injurious effect; but you are perfectly well, save for morbid and unfounded fears.

R. WHYTE.—The action of bromide of potass can hardly be described as "helping" the circulation in the brain, if by that term you mean stimulating the circulation. Bromide of potass is a sedative and alterative, and rather lowers the circulation than otherwise. Iodide of potass produces the symptoms of "cold in the head." We cannot advise you further till we know what you are taking the iodide for. In the case of iron, avoid taking tea or vegetable acids just after the drug.

PRUDENTIA.—Try the effect of the tonic recommended to "Fides" in present number. Cold sponging may also do good. Write again, if not improved, and give fuller account of habits, &c.

RESPICE FINEM.—Give up all stimulants, and try the effect of drinking copiously of potash or soda-water for a time. Fifteen grains bromide of potash, taken on going to bed in a little water for a few alternate nights, should also be tried.

AURIS.—As you value your hearing, do not consult any quack, "reverend" or otherwise. We think you suffer from a thickened "drum," and in such a case you must see a professional ear-surgeon. If unable to afford a fee, seek advice at an ear hospital. St. George's and other hospitals have an "ear department," where a skilled aurist can be seen.

HESCA.—The headache to which you are subject is evidently of nervous origin. Read our papers on "Headaches," in Nos. 3 and 4 HEALTH, and write again if the information there given fails to meet your case. Ten grains of bromide of ammonium taken in water may relieve you. If you write again, kindly send full particulars of health, habits, &c.

HOPEFUL (No. 2).—Not the slightest objection can exist to your making a trial of the cell-salts. They are, in any case, absolutely safe preparations.

FIDES.—We do not know the "phosphuret" you mention. Where have you seen it? Not official, certainly. The "Coca" is only a preventer of waste. Our best preparation as a tonic of the kind you require is Fellows' "Syrup of the Hypophosphites," a teaspoonful in water thrice daily.

BELLSTONE.—Yes; we know the preparation, but cannot recommend it. Phosphorus cannot be given as advertised. Our advice is to take the tonic recommended to "Fides" above. Take also plenty of fresh air and exercise.

A. GREY.—Depends on the materials used. White, for preference; but brown is not necessarily ineffective.

ECCISE.—1. Why not try "Cod-liver Oil Emulsion," in which the taste is well disguised. Any druggist will disguise the taste with a little cinnamon-water, essence of anise, or other vehicle. 2. No chance of your friend's appetite improving, unless she can contrive to have more exercise and fresh air. Hers is not a case for medicine at all, and no tonics are of avail where such confined hours are permitted. 3. The "reverend" gentleman is a quack of the first water. We believe he "keeps a physician" on the premises, in which case the true function of the quack will be that of receiving the fees.

T. HARPER.—You have evidently been too anxious about many things. Our advice is that you should have complete rest for a time. This may entail hardship, but health is above all else, and you should arrange for this. We do not think the paralysis spoken of is a necessary adjunct of your case; and whilst you are resting we should recommend you to undergo a course of electrical applications. Apply at a hospital, where you will probably be treated in this way. Glad to advise you further, if need be.

R. R. R.—Difficult to advise in the matter you mention and as you would like. Try a little bicarbonate of soda, or a very small pinch of subnitrate of bismuth.

J. J.—You should know that what you describe is a perfectly natural event in healthy persons, and that you do not suffer from any disease. Quacks would persuade you differently—but that is their trade. With this knowledge, you should leave off morbid thoughts; take plenty of fresh air and exercise, and rest assured you are perfectly well.

CLEOPA.—Clifton would suit, but there is not a Hydropathic, so far as we know, there which would accord with your views. Have you seen Bushey Park Hydropathic, near London? The Scottish Hydropathics present a good selection—Rothsay, Shandon, Wemyss Bay (on the Clyde), and Moffat, Melrose, and Peebles, inland and all in the South. For the sea-air, Shandon or Rothsay would suit. Glad to be of any further assistance.

L. L.—Try the effect of smearing the eyelids at night with a little pure Vaseline. Write again, if this treatment is unsuccessful. Try the habit also of opening the eyes under pure cold water by immersing the face in a basin.

AN ANXIOUS FATHER.—Is your family history good? We suspect there may be evidence of some slight constitutional taint which the injury set agoing. The case, in our opinion, is one for a mild sea-air, and for cod-liver oil combined with iron. As regards the future of the case, only a surgeon who inspected the joint could form an opinion on this head. These cases are always tedious, and seldom come perfectly right so as to cause no deformity.

H. KING.—Change, certainly, is the great remedy for a case like yours. With your children and family ties, and your occupation, life must hold for you much interest. A change to some busy watering-place—Margate or Yarmouth, &c.—would serve to brace you up physically and mentally as well. Time is the great consoler; don't grow morbid, but seek fresh air, cheerful society, and think of your duties to the living as well as your remembrance of the dead.

FYLDE.—An operation, as a rule, is the only radical cure for piles. We should recommend any good surgeon (not a physician's department). The operation is not severe, and no bad effects usually follow. We should recommend you for the bleeding to put a teaspoonful of strong tincture of hamamelis into an eight-ounce bottle of water, and to take three teaspoonfuls every three hours; whilst you may apply a lotion locally of two teaspoonfuls of the tincture to half a pint of water. The application of this lotion on two or three folds of lint or linen covered with oiled silk may effect a cure and save an operation. We have immense faith in the tincture of hamamelis as a cure for piles.

A. L.—1. Worthing is 61 miles from London, Whitstable is 76 miles from London from Cannon-street and 58 miles from Victoria by the respective routes. 2. Dr. Pratt's sermon to young men is published by Baillière, Tindall, & Cox, London. 3. Thanks for the cuttings.

J. SMITH.—The book is a quack production, and one of the worst of its kind. The £5. 5s. belt can do you no good whatever. It is an electrical sham and fraud.

SENSITIVE.—The system of treatment you name is never practised now, so far as we know, for that ailment. It is, in our opinion, needlessly rough and crude, and apt to cause serious effects. The author you name, if we mistake not, has retired from practice. His views were based on French practice, which was highly crude in some respects.

W. SCOTT.—We should recommend you to try with persistence, inhalation (by means of an inhaler, to be bought from a druggist, into which boiling water is first placed and then the drug) of ten drops of tincture of iodine to the pint of water. Compound tincture of benzoin ("Friar's Balsam"), a teaspoonful to the pint of water, is also valuable, but you must not go out for an hour after each inhalation, to avoid risk of cold. Try exercise, and a visit to the seaside would also do good. A cold sponge bath in the morning would also strengthen your chest. Chloride of ammonium lozenges (each of two grains added to black currant paste) are also valuable.

GLENULIN.—The affection you describe is *ozæna*. As a cure, give the boy cod-liver oil with syrup of the iodide of iron added thereto, and wash out the nose with a lotion made by dissolving a teaspoonful of alum in a pint of water. Injections of Condy's Fluid (1 part to 5 or 10 of water) also do good, and it is desirable to take the patient to the seaside.

J. R. B.—From Baillière, Tindall, & Cox, publishers, Strand, London. Price 1s. and 2s.

A. MILLS.—The symptoms you describe are not those of "itch," which appears between the fingers, and forms pustules. You seem to suffer from a skin affection of tolerably common nature. Attend well to cleanliness, washing with carbolic soap. Take a purgative (e.g., Euclyp Water), and, to allay the itching, wash the parts with a lotion composed of carbonate of soda (a teaspoonful to a pint of water). Friar's Balsam painted over the spots may also relieve you. The affection (from your description) not being "itch," there is no need to disinfect your clothing. Look well to your diet.

THOMAS.—Take the tonic recommended to "Fides" in present number; take plenty of fresh air and exercise; sleep on a hard mattress; don't take fluids late at night, and, above all, avoid quacks. What is the name of the Sheffield quack you consulted?

GARRICK.—Try 15 grains bromide of potassium given in a wine-glassful of water. Let the diet be generous, and try the effect of some light mineral water (such as Apollinaris); and you might also give "Kola Nut" a trial—to be had of Messrs. Heyman & Phillips, 15, Clifford-street, Bond-street, London, W.

T. J. F.—(We cannot undertake to send you single copies of HEALTH. Kindly order from your bookseller.) We cannot recommend the apparatus you mention. See Mr. Carpenter's second paper (HEALTH, No. 20) for full information respecting "belts" which owe their virtues to flannel, and not to electricity.

P. H. M.—Any good to be got from "electrical baths" would



be procured far more satisfactorily from the application of electricity by a medical man, and by means of a suitable apparatus.

**KATINKA.**—For the cough, try inhalations such as those prescribed for "W. Scott," in the present number of **HEALTH**. A good cough mixture, suitable for you, is composed of carbonate of ammonia, one drachm; tincture of squills, three drachms; compound camphor tincture, half-an-ounce; infusion of senega to make up six ounces. A tablespoonful every four hours.

**SEPTUAGENARIAN.**—No outward application is of any service. We recommend you to rest for a period, and to allow as long intervals as possible. The tonic recommended to "Fides" in the present number of **HEALTH** should be serviceable to you; likewise cold sponging might be tried. Remember age requires wise fostering.

**H. LOWTHER.**—You will require to alter your habits if you desire to be cured. 1. Avoid bolting your food. 2. Masticate thoroughly. 3. Rest after your meals. 4. Avoid taking suppers (and fluids) late at night. 5. Attend to the condition of your bowels, and take a little "Esculap" water occasionally. You require no medicine.

**DELTA BETA.**—1. Undoubtedly, yes. 2. Ditto. 3. Leave off eating and drinking late at night. 4. Moderation in tobacco will do no harm. 5. Try the tonic recommended to "Fides" in present number of **HEALTH**. 6. No reason to doubt so. 7. Attend to ventilation of bedroom and to advice 3. (8. Try cold sponging in the mornings and brisk rubbing with a hard towel.)

**H. F. P. L.**—1. We don't think the recipe would do the hair any harm; but we are sceptical as to any good effects. 2. Sulphur soap alone will not effect much (or any) change. 3. No; not as a usual result. 4. Yes; provided lime juice is really used.

**DESPONDING.**—You must be patient. You cannot be cured or regain strength in a day. Persevere with the remedies, and attend to your general health. Take some cod-liver oil emulsion twice daily, and try cold sponging. Don't grow morbid, above all.

## KOLA

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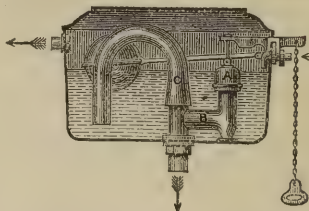
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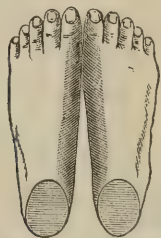
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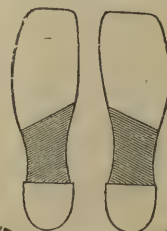


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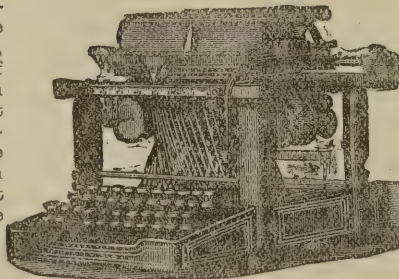
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"BISHOPSTORPE, YORK, October 14th, 1882.



# HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &amp;c.

LONDON: FRIDAY, SEPTEMBER 28, 1883.

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## Notes by the Way

"Health is the foundation of all our physical happiness."—Herder.

WITH the present number of *HEALTH* we bring our first volume to a close. It is too early, perhaps, to take a retrospective view of our work, but we may be permitted to say that we have every reason to feel gratified at the success which has attended our efforts to place in the hands of the people a cheap, handy, and popular medium for the diffusion of health-knowledge, and for the discussion of all matters pertaining to the advance of sanitary science. So far, we have endeavoured to carry out to the full the programme we outlined in our first number. Despite our best efforts, however, much that was intended for insertion in our first volume has been crushed out by the exigencies of space, and by the need for attention to questions of the day and hour. In our second volume we hope to realise our original intentions in full. It need hardly be added, that the firm determination with which we started, namely, that of making *HEALTH* a popular and trustworthy guide to a knowledge of the laws of our physical well-being, will be adhered to throughout the further career of our journal.

\* \* \*

THE list of contributions already in hand for our second volume is large and varied. We have the promise of future articles by Dr. Cathcart on "Recreation and Physical Exercise"; and of a series by Mr. G. Chisholm, M.A., B.Sc., on "Examinations in their Relation to Health." Both of these topics are likely to prove highly interesting to teachers, parents, and all connected with the upbringing of the young. Dr. Milne Chapman will contribute to our "Family Circle" a series of papers on "The Slight Ailments of Children"; and Dr. Baird a series on "Infancy and its Care"—topics in which every mother must evince a deep interest. The "Healthy Houses" section will contain papers on "House Drainage" by Mr. B. Thwaites and Mr. Munday, C.E., and others have also papers interesting to every householder in hand for future numbers of *HEALTH*. "A Surgeon to a London Hospital" will write on "How to Get Thin or Fat," and other topics of personal interest, while the papers by Mr. Manson, on "The Body and its Structure," will be continued in Volume II. The original essays on "Electricity and Health," by Mr. Carpenter, will be concluded in our second volume, and other topics of personal interest will be dealt with by that

gentleman in future numbers. As before, each topic which the day or hour presents to view, and which is in any way connected with health-science, will be seized upon by our editorial staff for treatment amongst our "Original Essays."

\* \* \*

WITH such prospects of efficient aid before us in our work, we may confidently ask our large circle of readers and friends to assist the diffusion of sanitary knowledge, by recommending *HEALTH* to their friends. We may add that a copious "Index" to Volume I. is being prepared, and will be sold separately (price 2d.), for the convenience of subscribers who are binding their numbers.

\* \* \*

AN interesting correspondence has taken place in the *Times* concerning the relation of braces to men and women's dress. Dr. Dobell would have neither sex to wear braces. He maintains that the hips, and not the shoulders, are the natural supports of the lower garments. Lady Harborton writes that Dr. Dobell is mistaken in thinking that braces are a necessary part of the "rational dress" programme. What the "rational dress" reformers, as Lady Harborton puts it, more wisely contend for is, that if women's clothes were better made the weight and drag would be reduced to a minimum. Mr. Lennox Browne says that braces are an absolute necessity "for the majority of men, especially after middle age"; and "F. R. S. E." writes, that he himself, though by no means fat, finds it impossible to gird up his trousers without the aid of braces.

\* \* \*

OUR objections to waistbands have always been founded on the plain ground, that for both sexes waist-compression is dangerous at the best. There is a natural principle in tending to support the clothes from the shoulders (in men, at least), leaving the haunch entirely free. No person, man or woman, can possibly walk gracefully with a load or constriction just above the haunch-bones. We have regarded the question of clothes-supports as solved ever since the "Argosy Braces" were introduced. This is the brace described by "F. R. S. E." in the *Times*. By an ingenious arrangement of simple pulleys, the brace adjusts itself to every movement of the body, and we can personally testify to its being infinitely lighter than any other brace we have either seen or worn.

\* \* \*

FROM France comes the news that a venerable old lady, who has attained the age of 123 years, lives at Aubérine-en-Royans, a village in the Dauphiné, between Valence and Grenoble. This person, save for a slight deafness, is said to be in full possession of her faculties. She lives in a hut in a narrow street, and, according to her marriage certificate, she completed her hundredth year after her marriage in January last. Her skin is described as being like parchment, but she keeps herself scrupulously clean, and her medical attendant alleges that she is never ill. The case is a notable one in many respects.

\* \* \*

A GERMAN girl, aged fifteen, who had been in the habit of biting off the ends of her hairs and swallowing them during a period of four years, has just had a tumour formed of the said hair-fragments removed from her stomach. Her school companions likely practised this extraordinary habit under the idea that it would give them clear voices. The occurrence of hairy tumours in horses and cattle which lick their coats perpetually is nothing new; but it is a novel incident to find a human being given to this practice.



DEAFNESS in schools is a common, but often unsuspected, source of backwardness amongst children. A recent remark on this topic, to the effect that every inattentive child should have its ears examined, and that all school children should have their hearing powers tested twice a year, deserves to be repeated here. The teacher should be fully alive, it is urged, to the common ailment of deafness in children and to its results. We know, at least, of half-a-dozen cases in which children who had been voted dull and stupid were found to have defective hearing. Parents should especially attend to the state of the hearing powers after fevers. Many children are highly reticent regarding their ailments, and the fear of being punished for backwardness at school adds not a little to the difficulty which both teachers and parents may experience in dealing with the evil. But, nevertheless, the condition should merit the attention of all concerned, both from its health aspect and its educational importance.

\* \* \*

THE question of short-sightedness in children has been ably discussed by Mr. Henry Power, F.R.C.S., in his lectures published in the *Lancet*. We hope to publish some extracts from Mr. Power's lecture in an early number of our new volume. The care of the eyes in the young is a matter of such extreme importance that we need make no excuse for again referring to this topic.

\* \* \*

A RECENT volume by Dr. Wall, on "Indian Snake Poisons," tell us that if permanganate of potass (the principle of Condy's Fluid) be mixed with snake-poison outside the body, the poisonous properties are completely arrested. But to cope with the poison after it has been injected into the blood is a very different matter. Dr. Wall says that when a dangerous snake has bitten a person the bite should be excised or cut out. An indiarubber band applied to the limb will prevent the spread of the poison in the blood, whilst the bite is to be laid open and freely washed with permanganate of potass.

\* \* \*

PROFESSOR ATTFIELD'S address to the British Pharmaceutical Conference has naturally excited much wholesome attention. We say "wholesome," because we deem it of the highest importance that the public should be placed (or place themselves) in a proper relation to all professional men. The practice of allowing all and sundry to sell medicines, some of which are highly poisonous in character, cannot be too forcibly condemned. Whilst every educated druggist is to-day subjected to a severe and searching examination on the properties of the drugs in which he deals, any grocer, hairdresser, or chandler may retail medicines without possessing, or claiming to possess, the slightest knowledge of pharmacy. We should be the last to decry "free trading;" but this is no question of "free trade" at all. It is a question of public safety; and when Professor Attfield demands that the druggist should have "protection," we think all reasonable minds will endorse his opinion.

\* \* \*

THERE is something altogether wrong in the state of the law which permits the public to buy, and any one to sell, medicines—such as chloral, chlorodyne, &c.—which require great care in administration. Again, if this open trade in drugs is to be permitted, what guarantee can we possess of the purity of our purchases? If the public would be taught to buy their drugs only of qualified druggists, the dangerous practice at present in vogue, whereby any one may deal in "medicines," would soon become extinct.

## Original Essays

"Life is not to live, but to be well."—*Martial*.

### MEDICO-ELECTRICAL APPLIANCES AND THEIR EMPLOYMENT AS AIDS TO HEALTH.

BY WM. LANT CARPENTER, B.A., B.Sc., &c.

#### SIXTH PAPER.

WE have now to inquire into the reason why chains or belts constructed on the principles adopted by Mr. Pulvermacher should be of such high electrical efficiency for the purposes for which they are designed. They are so slender in appearance, as well as so light in weight, that it is not at all uncommon to hear a medical man say something to the effect that "Oh, Pulvermacher's chains are mere toys; I always use two or three large cells!" It will be the main purpose of this article to show that statements of this character are founded upon an utter misconception or disregard of the conditions which should determine the use of electric currents in cases of high resistance, such as that of the human body. Even so-called professional electricians have only lately (*i.e.*, within the last few years) come to realise fully the necessity for varying the arrangement of the cells of a battery according to the kind of work that it is required to do, or in other words, according to the resistances to be put into its circuit, and the proportion that these bear to the internal resistance of the battery itself.

At the risk of a charge of reiteration, we must again remind our readers that the electrical resistance of the human body depends upon the state of the skin, but that it may amount, if taken between the palms, to 13,000 Ohms, or as much as that of one of the Atlantic cables. Moreover, it has been recently pointed out (*Nature* for June 14 and Sept. 13) by Dr. W. H. Stone that this resistance is by no means constant through the same parts of the body, but that it is largely increased by a rise in temperature. In the case referred to, the resistance was measured between the soles of the two feet, and was found to increase from 2,300 Ohms to 4,930 Ohms in a few minutes, according to the temperature of the patient, which at times was as much as nearly seven degrees above the normal. In another case given by Dr. Stone, the resistance of the same body-circuit in the same patient varied from 2,875 Ohms with a wet skin and prolonged application of the current, to 13,000 Ohms on a very dry day. The writer has had abundant instances of similar variable results in experiments upon his own person, some of which will be detailed in the next article. A large portion of this resistance is due to the comparatively insulating property of the epidermis, or outer layer of skin; if conductors be inserted underneath this, the resistance is very much lessened.

The impression prevails to a very large extent among those who have not paid any attention to the progress of research during the last few years, that there is something specially mysterious about electricity, and that the laws of its development and use are but imperfectly understood, much less so than those of the other forms of energy in Nature, as gravitation, heat, chemical attraction, &c. Nothing can be further from the truth; electrical measurements are among the most delicate in the whole range of physics, and the laws of electricity are neither more complex nor less well known than those of any other branch of physical science. That we are ignorant of what electricity is, goes without saying, but we are equally igno-



rant of what heat, magnetism, gravitation, &c., are; none of these forms of energy are known apart from matter, they are simply the different moods or affections of matter.\*

The law which we have now to consider in its consequences as affecting the proper arrangement of batteries for any given work is known as Ohm's law, and is of as great importance to the electrician as Sir I. Newton's laws of motion are to the mechanician or astronomer. Ohm's law states that in any given circuit "the strength of the current varies directly as the electromotive force, and inversely as the resistance of the circuit." By electromotive force (usually abbreviated to E.M.F., or simply E.) is meant that which moves, or tends to move, electricity from one place to another; it corresponds to pressure in a system of water-pipes, which, directly a tap is turned, produces a more or less rapid flow of water. It is measured in units called Volts, and the E.M.F. of any given cell depends *entirely* upon the particular pair of metals and the fluid or fluids employed in its construction, and not at all upon the size of the plates. The same E.M.F. does not always produce a current of the same strength, since that depends also upon the resistance in the circuit, just as the same pressure of water does not always produce the same flow, owing to the use of small pipes, or the partial chokage of large ones. Now the resistance in even the simplest circuit can be divided into two portions, one being the resistance *external* to the battery, of the wires, instruments, and work to be done; while the other (too frequently neglected) is the internal resistance of the fluids, &c., in the battery itself. This latter varies greatly in cells of different kinds, and also in different sizes of the same kind of cell, being diminished as the plates increase in size. In former days, electricians used to talk about "quantity currents" and "intensity currents," meaning by the former term a current in a circuit whose resistance (whether in or out of the battery) was very small, and by the latter, a current due to high electro-motive force. The use of such terms, however, has given rise to much misconception, and should, therefore, be avoided.

It will be evident from Ohm's law that, for a circuit with a known external resistance, we can increase the strength of a given battery either by increasing its E.M.F., or by diminishing its internal resistance. As the E.M.F. depends entirely on the materials composing the cell, this can only be increased by joining a number of cells in series—*i.e.*, the copper plate of one cell to the zinc of the next, and so on, leaving a copper plate free at one end, and a zinc plate at the other, for the attachment thereto of the wires to convey the electricity to where it is to be used. The internal resistance may be diminished by bringing the plates nearer together, by increasing the size of the plates, or by joining all the zincs together and all the coppers together. If six cells be so joined, the internal resistance will be only  $\frac{1}{6}$ th of that of a single cell, but the E.M.F. of the arrangement will not be greater than that of a single cell.

If, for brevity, we formularise the knowledge we have now gained, we have—

$$\text{Current} = \frac{\text{Electromotive Force.}}{\text{External + Internal Resistance.}}$$

$$\text{or } C = \frac{E}{R + r}$$

Let us now apply this to the case of a high resistance,

such as that of a long distance cable, or of the human body. In this case  $R =$  (say) 10,000 Ohms. If Daniell's cells be employed, as is usual in telegraphy, the internal resistance of a large cell may not exceed perhaps the  $\frac{1}{10}$ th of an Ohm, while that of a small cell may amount to a few Ohms (say 20); the E.M.F., it must be carefully remembered, is *the same* whatever the size of the cell is, and may be taken in this case at 1 volt per cell. Supposing two cells to be coupled in series, giving an E.M.F. of 2 volts, it is evident that there is exceedingly little difference in value between the fractions  $\frac{2}{10,000+0.2}$  and  $\frac{2}{10,000+40}$  which express the strength of the current for the large and small cells respectively. When this is properly comprehended, the absurdity of using a few large cells to produce a current which has to go through a *high external resistance*, will be clearly seen. On the other hand, under these conditions, the strength of current is obviously almost directly proportional to the number of cells employed, if they are coupled in series.

If, however, the external resistance be small, so that it bears not an undue proportion to the internal resistance, the advantage of reducing this latter (by the use of large plates) at once becomes apparent. Suppose that  $R = 1$  Ohm instead of 10,000 Ohms, as it might be through a short pair of copper wires with a piece of platinum wire between them, to be heated by the current. Now our fractions become for the large cell  $\frac{2}{1+0.2}$ , and for the small  $\frac{2}{1+40}$ , or the strength of current flowing in the first case (large cells) is represented by 1.96, and in the second by 0.0487, *i.e.*, under these conditions of low external resistance, the large cells give a current about forty times as strong as the same number of small ones.

A well-known lecturer in one of the leading electrical schools of the metropolis is accustomed to demonstrate this fact to his class in a very telling manner. After explaining Ohm's law and its consequences, he shows the heating effects produced by two or three large cells, taking sparks off mercury, fusing iron wire, &c., and then invites the students to put the wires leading from the battery upon their tongues, an invitation which is usually "declined with thanks." Having encouraged them by placing them on his own tongue, where they produce scarcely any perceptible effect, in consequence of their low electro-motive force, he takes the wires from a battery of very small cells, connected in series, and after showing that the current in them will produce none of these striking luminous effects, invites a similar application of them to the tongue. The high electro-motive force applied to this comparatively high resistance produces at once strong physiological effects upon the unlucky student, who, having failed to comprehend the principles of Ohm's law, incautiously complies with this second invitation!

We hope that we have said enough to show why, for medico-electric purposes, it is absolutely essential to have a large number of small elements, or cells, coupled in series, as is the case in Pulvermacher's chains, and why "two or three good-sized cells" are really of little or no use. In the next article we shall give the results of some careful electrical measurements made with several kinds of medico-electric appliances, in the investigation of which the writer has been engaged for some weeks past, and this will be followed by an article upon Professor McKendrick's lecture to the British Association at Southport, upon "Galvanic and Animal Electricity."

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\* For a further development of this point, consult "Energy in Nature," by the author of these articles (Cassell & Co., Limited).



## AN OLD BLOT.

BY W. DOMETT STONE, M.D., F.R.C.S.

THE *Times* of September 12th contained an interesting article on the Mercantile Marine and the Board of Trade, in which the writer dealt with unseaworthy ships, overloading, &c., but the "living machinery" appears to have escaped his notice. As this is a subject to which I have devoted considerable time and attention, I may perhaps be pardoned for again reverting to it, which I do under the full conviction that it is only by thus continually "plying the oar" that we may hope to attain the object all writers on marine hygiene have in view, viz.,—a marked improvement in the sanitary condition of our merchant seamen. "We must remember," as George Eliot says, "that it isn't only laying hold of a rope—you must go on pulling." Year after year have I drawn attention through the medium of the *Times*, and other channels, to this eminently vital matter; and in pointing out the bane I have not omitted to suggest the antidote. So long ago as 1867 I urged the imperative necessity of an obligatory dietary scale as the only means of eradicating scurvy from the list of ills that flesh is heir to. On this point all authorities are agreed. The officials at Whitehall, however, have not yet seen their way to carry out the suggestion. The consequence is that many lives are daily being sacrificed, and the infallibly preventable disease—scurvy—is still permitted "to ride rampant through its wild career." I gather from the last report of the Seamen's Hospital Society that the number of cases of scurvy admitted during the year 1882, though lower than those of the two preceding years, contrasts very unfavourably with the returns of 1873; and in an official report issued by the Marine Department of the Board of Trade in June, it is shown that the average number of scurvy outbreaks reported since 1875 has been eighty-six, whilst in 1869 and 1870 only twenty-two cases had been recorded. Notwithstanding the increased prevalence of this disease, I learn with regret that "it is not at present considered desirable to insert a statutory scale of diet in the articles of agreement with crews serving on long voyages; though it may possibly be necessary at some future period." Such "masterly inactivity" on the part of the Marine Department of the Board of Trade, in thus compelling year after year our merchant seamen "to stew in their own juice," cannot be considered highly commendable! I would suggest to "my lords" an aphorism enunciated by Bacon, "When things are once come to the execution, there is no secrecy comparable to celerity."

As I have very recently, in the columns of *HEALTH*, enumerated other of the many shortcomings of the oft-amended Merchant Shipping Act, I refrain from expatiating on them now. Those readers who take an interest in the question, I would refer to an article on "Our Sailors, and their Health," published in *HEALTH* of May 18 last.

**RAPID BLANCHING OF THE HAIR.**—A case of rapid blanching of the hair in the course of neuralgia of the head is recorded by Dr. Raymond. The patient was a woman of 38 years, with black hair, and had been in good health until she received news of the loss of a considerable sum of money. She became restless, lost appetite and sleep, and was attacked by severe pains in different parts of her body. The neuralgic pains became most intense in the head, and at the time of their greatest severity the whole hair of the head, in not more than five hours, changed colour, becoming red, and then in a few days white. At the end of fourteen days the patient had become almost bald, and had to wear a wig. From this time the neuralgia completely disappeared.

## HYDROPHOBIA; ITS NATURE, CAUSES, AND TREATMENT.

BY DR. ANDREW WILSON, F.R.S.E.

## FIFTH PAPER.

CAN the origin of hydrophobia be accounted for, and have we any definite information regarding the interval, or effects of external and physical conditions on the disorder? are queries which may appropriately be asked and answered at the present stage of our inquiries. That rabies was known to occur in the dog in classical times is well ascertained from the records of the classic scientists, but it is highly probable that the disease assumed importance in England so lately as the beginning of the present century. It was, however, well known in Europe three hundred years ago. It has never occurred in Australia, nor in New Zealand, whilst other parts of the world in which European dogs exist, and where native dogs, or carnivora closely allied to dogs, occur, are also exempt from the malady. It is now known to exist amongst Arctic dogs, and it occurs amongst the canine races of China. Hydrophobia has never been certainly known to be produced save from the bite of a rabid dog, and the belief that hydrophobia rarely, if ever, reproduces itself, or is not capable of being communicated from one human being to another, seems, as far as our knowledge goes, placed on a basis of fact. There is, of course, no chance of witnessing the effects on the human subject of inoculation with the saliva of a hydrophobic patient; and, indeed, there is as little chance that infection in any ordinary case could be propagated from that source. The entire question of the origin of hydrophobia, therefore, turns upon the determination of the origin of rabies in the dog. Exterminate the latter disorder, and hydrophobia would, of course, completely disappear. It cannot be said that the information which a study of the "surroundings" of rabies affords leads to the formation of any definite opinion regarding its origin. The very common notion that rabies is engendered or favoured in its development by summer heat—a belief which has given origin to the term "dog days"—has been long ago proved to be utterly unfounded. Rabies appears in all seasons. Nor does the want of water produce the disorder, since experimentation on this head—cruel, but justifiable from the information it affords—has shown that a dog may die of thirst, but will not, on account of the want of water, become rabid. Want of food will not produce the disorder, neither does over-feeding act as its cause. It is more common in male dogs than in females—a fact probably explained in greater part by the greater preponderance of the male sex in the canine races. The bite of a furious or enraged but healthy dog, as already remarked, does not produce rabies in another dog, or hydrophobia in man, nor does the breed favour or discourage the disorder. Mongrels and curs are more frequently affected, simply because they are more exposed to the attack of their rabid neighbours. And no age, lastly, is exempt from rabies, the disorder being found in very young as well as in very old dogs. These considerations lead to and strengthen the important idea of the highly *specific* nature of the disease. Many of the foregoing conditions, which of themselves are utterly incapable of *originating* rabies, will tend either to favour or retard the disease when once it has appeared.

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## Personal Health

"Be timely wise;  
With health all taste of pleasure flies."—*Gay.*

### CARBOLIC ACID AND BURNS.

By W. MATTIEU WILLIAMS, F.C.S.

THE paragraph under "Personal Health," page 359, reminds me of an experience which is, I think, instructive. When engaged in the distillation of cannel coal at Leeswood, in Flintshire, I had to employ rather rough workmen in doing rough work, but which at one particular stage demanded caution and alacrity—viz., when the door of the retort was removed for discharging its contents. If this is done clumsily, and air is admitted to mix with the hydro-carbon vapours, an explosive atmosphere is formed within the retort, and the workman, if he stands in front of the mouth of the retort, may suffer severely by exposure to an explosive outburst of flame.

A bad case of this kind occurred in my presence, the face of the victim being fully exposed to the flame. The foreman hurriedly dragged the poor fellow to a tank of crude oil hard by, and within a very few seconds his head and face were smeared all over with a thick coating of the tarry liquid, which was afterwards renewed very liberally. He was, in fact, washed with it. On inquiry I found that he suffered but little pain, excepting when the renewal of the application was delayed. A few days afterwards he returned to his work, minus eyebrows and eyelashes, with curious stubble-like vestiges of whiskers, and an extraordinary complexion. The cuticle of his face gradually peeled like that of a scarlet-fever patient, but no deeper mischief or permanent disfigurement remained. The remedy was in common use at all the neighbouring oil-works.

The crude oil contains a small proportion of carbolic acid and a large quantity of paraffin, mixed with complex tarry matters and the oil used for paraffin lamps. Its composition may be imitated in a refined form by intimately mixing a little carbolic acid with Vaseline, which is a paraffin jelly, corresponding to one of the chief constituents of this crude oil.

### DEODORANTS AND DISINFECTANTS.

THE following reaches us from a correspondent at Florence. We are glad to be able to present his views to the readers of HEALTH:—

Although I have been for more than forty years a student and practiser of sanitation, the perusal of HEALTH is a new and gratifying sensation to me. What pleases me most in your pages is the liberty you give for free discussion, apart from dogmatic assertion. I therefore feel you will not consider I am venturing in a spirit of carping criticism to say a few words about the subject of those valuable papers, "What to do in Emergencies," by a Hospital Physician.

The part of these to which I most particularly desire to refer is that "On Disinfection and Disinfectants" (p. 107, Part I, April and May, to page 168, Part II, June), in the monthly parts of your journal.

I must confess myself disappointed that the author, in his enumeration of disinfectants, dwelt entirely on those of a pharmaceutical character—namely, oxygen, sulphur, nitric acid, copperas, chloralum, carbolic acid, Condry's fluid, and others of a like description; whilst he said nothing of that excellent disinfectant, the common carbo-

nate of lime, nor of the most effectual of deodorants, dry clay or earth.

In Part III. of HEALTH (June 13, p. 219), we are told how "the name of Moses is the first to be honoured as author of the most complete and detailed system of hygiene in ancient times, and that the Code of Moses was the outcome of the wisdom and experience of long past ages." And how, "We cannot but admire the excellent precepts laid down for the cleansing and purifying of house and camp—for the security of pure water—for choice of good and wholesome food—for the isolation of the sick and the unclean, and '*for the destruction of refuse.*'"

I have put the last five words in italics because they seem to me to constitute the chief pillar of the Mosaic Code; and they ought to hold the same position in all modern sanitation. In the patriarchal times, most probably, no Condry's fluid, chloralum, carbolic acid, or disinfectants of their class existed. And equally possible it was that no occasion occurred to advise (as in HEALTH, June 22, p. 168):—"On no account should excretions be put into closets or sewers without disinfection." For the plan of Moses in regard to the deodorization of excreta, which is better than that of disinfection, is thus explained in Deuteronomy, chap. xxiii., v. 12—14:—"Thou shalt have a place without the camp to which thou mayest go for the necessities of nature, carrying a paddle at thy girdle. And when thou sittest down, thou shalt dig round about, and with the earth that is dug up thou shalt cover that which thou art eased of."

I perfectly concur in every word that you have written about the Mosaic hygiene; and it has long been my belief, now strengthened by yours, that had his system been carried out and transmitted to our generation through the intervening ages mankind would have been free from those destructive plagues which we find in Haydn's Dictionary of Dates, as recorded from the pestilence of Palestine in 1017 B.C. down to the cholera of the present year in Egypt.

There is still another practiser of the dry-earth system, whose right to be considered the original inventor must not be overlooked. At pages 148 and 164, Part II., of HEALTH, I find an article on "How Animals Doctor Themselves," and how "M. Delaunay lays down as a general rule that there is not any species of animal which voluntarily runs the risk of inhaling emanations from their own excretions—the animal tribes in this respect being far ahead of many civilised human beings." The incidents which you give of the cat eating grass when sick—of cats treating themselves by irrigation—or of the cat which had the singular fortitude to remain forty-eight hours under a jet of cold water, are very remarkable; but they do not give all the credit that is due to the grimalkin family. Only three days ago, I saw from one of the windows overlooking our garden, a tabby peering round cautiously—possibly in coyness—then, believing it was not observed, scraping with its claws a small hole in the

MEDICAL AND SANITARY EXHIBITION, 1881.—AWARD OF MERIT.—DIABETES. VAN ABBOTT'S GLUTEN BREAD, and all other suitable Foods for Diabetic Patients. Dietary Tables and Price Lists post-free on application. VAN ABBOTT, 5, Princes-street, Cavendish-square, W.—DELICATE CHILDREN AND ADULTS SUFFERING FROM NERVOUS DEPRESSION. VAN ABBOTT'S HYPOPHOSPHITE OF LIME BISCUITS, for Delicate Children, especially those suffering from Deficiency of Bone, Weak Joints, or Debility, and Adults suffering from Nervous Depression. Each Biscuit contains five grains of the Hypophosphite of Lime. "Quite free from disagreeable taste, and taken willingly by Children, and certainly provide an excellent means of administering this valuable compound. Our analysis proves the accuracy of the printed descriptions on the labels of the boxes. The Biscuits were suggested by Mr. W. Adams, of the Orthopædic and Great Northern Hospitals."—*Lancet*, Nov. 4, 1876.—VAN ABBOTT, 5, Princes-street, Cavendish-square.—[ADVT.]



earth. Over this it sate for a few minutes over its excretory operation, and after finishing it, covered the excreta by scraping more earth over the deposit. Why, here is the earth-closet as it was probably invented by some pussy in remote ages; perhaps by the feline ancestors of Methusaleh's cat—the oldest of which tradition gives us a record; for we are told by the Old Testament, that Methusaleh died at the age of 969, and in or about 2,404 years before the birth of our Saviour, and not very long before the Deluge; therefore, it may be that this part of the Mosaic code was founded on observations of the cat's proceedings. In all parts of the North that I have been in I have been an accidental witness of the same operation as I saw here a few days ago. But as I have never observed it done during rain, we may infer that the deodorizing power, as is well known by those who have used it for years, is possessed only by *dry* clay.

My own testimony to the value of earth as a deodorizer is founded on a practical experience of thirteen years. Of these, two were passed in a very dirty town where there was little or no water, on the Pacific coast of South America; four were spent on the south-east coast of Ireland, in a place where we had to get drinking water from a neighbour, although it rained nearly every day, and sometimes for three days without stopping; four years in a north-west suburb of London, and three years in Italy. It has never failed. With a wooden commode of ordinary dimensions, but closed to the ground like a box, I have inside of that a tin or zinc square box, that is removable when it needs to be emptied. Alongside of this I have another square box, containing argillaceous earth, that herein Florence I have had swept from the road in front of my door, and in this is a small tin scoop, by which the clay can be shovelled into the other. One very great advantage of these is that they can be removed from room to room as needed. A small quantity from the scoop is put in before the commode is used, and then sufficient to completely cover what is left behind when the operation is finished. The earth or clay deodorizes the excreta the very moment they are covered. It is a case of *hey! presto! begone!* as rapidly as if it were one of Robert Houdin's conjuring tricks, or a candle blown out, so quickly does all odour vanish.

I am now making an attempt, in which I have succeeded so far, to prove the economy with which the material can be used. This, however, is asserted as already proved by the experimenters of Moule's patent. But a good thing cannot be done too often. On May 14 I commenced with some sweepings of argillaceous earth from the road in front of my residence. It needed no riddling, and was heavy enough not to be considered as mere dust. I used this in my commode till Aug. 15—or three months and a day—and it had no more smell at the end than the simple clay had at the beginning. Then I got the commode emptied in which was contained the combined, amalgamated, and coalesced mixture of clay and excreta. It was put into the garden, spread out on a flag to be dried, so as to absorb some oxygen from the air. It was then transferred to another box alongside the commode, and I am using it still since Aug. 18, with the same odourless results as before.

Do you not think the application of this would be very useful to those poor people to whom the knowledge of Jennings' apparatus—syphons, traps, ventilating sewers—is as so much Chaldaic or Hebrew, and to those who have no money to expend on Condry's fluid, chloralum, or carbolic acid? For any one can have a small box or basket of clay in his house. I know your wet climate makes the getting of dry clay to be a difficulty. But when

I could procure it during four years' residence in Ireland, the wettest country in the world, there ought to be no difficulty in obtaining it in England.

Could it not be used in such a case as that recorded by the late Dr. Carr, and mentioned in HEALTH, where, on Aug. 31, 1854, the excreta of a child suffering from diarrhœa were thrown into the cesspool communicating with the Broad-street pump in St. James's, Westminster, and from which five hundred deaths occurred in three days? If these excreta had been mixed up and solidified, or, if you prefer it, disinfected with a little clay,\* instead of being thrown into a cesspool, these five hundred lives might have been saved. Or might not some of the typhoid fever arising from bad smells of corrupting excreta be modified by a little earth? or the hospitals be kept from these and similar nuisances by a few such portable commodes? In Italy they can be made by a carpenter for 15 francs each, or about 12s. 6d., and the comfort of them when being transferred from ward to ward in one of your hospitals would be indescribable.

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FRENCH HOSPITALS.—From a recent inquiry conducted by the Department of Public Assistance it appears that there are at present in France no fewer than 1,563 hospitals; but of these by far the greater number partake rather of the character of almshouses and asylums for the aged, the infirm, and the young and friendless. Of hospitals, as the term is understood among us, there seem to be 364, exclusive of the establishments which combine medical treatment with the functions of an asylum. The hospitals which devote themselves mainly to accidental injuries treat on an average 360,000 cases a year, while their patients permanently under treatment number 40,000. The hospitals dispose altogether of 164,955 beds, of which 54,245 are assigned to the infirm, the aged, and the incurable, and 16,050 to children; while 23,459 are needed for the officers and attendants. Speaking generally, the proportion of patients treated in French hospitals appears to be about ninety for every ten thousand inhabitants.

THE PROPAGATION OF SMALL-POX.—Small-pox has reappeared in Leicester. Seldom has an outbreak of the disease been traced to carelessness more reckless or culpable than that which determined the propagation of contagion in the instance in question. A young woman working at Leicester went to Birmingham, where small-pox is rife, to visit her mother, who is engaged as a nurse in the small-pox hospital there. The mother gave her daughter a dress which she had worn while working in the small-pox hospital. The daughter took the dress to Leicester, and began to unpick it; but, before she had completed her task, she fell ill of small-pox, from which she died. Two other cases of small-pox have since arisen in the house where the deceased girl lived.

THE LINES ON THE HUMAN SKIN.—The skin is covered by countless fine furrows. Lewinski has studied these, and arrived at the conclusion that they are bends produced by the movement of the skin, either over the joints, as at the knuckles, or directly by the muscles. When the cutis is contracted, the epidermis is laid into folds, which disappear again when the skin is stretched; so, as the cutis is stretched in the living skin with its natural attachments, when a piece of skin is cut out, it contracts, and the epidermis is thrown into folds.

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\* Clay cannot "disinfect"; and whilst we agree with our correspondent in many of his remarks, the value of "disinfection" is, we think, too much neglected in his argument.



## The Body and its Structure

"The proper study of mankind is man."—Pope.

"What a piece of work is a man!"—Shakespeare.

### NO. XIX.—MUSCLES AND THEIR WORK.

By A. J. MANSON.

DESPITE the fact that the word "muscle" is by no means uncommonly or infrequently used in ordinary conversation, many persons would be puzzled to say exactly what muscle is. The idea that muscle is somehow or other connected with our bodily movements is one founded on an appreciation of the functions of this tissue of our frames; and, as we shall see, "muscles" are indeed the means whereby all ordinary movements are carried out. We speak also of certain muscles which are more or less familiar to all by the names given to them in anatomy. The *biceps* muscle, for example, forming the well known fleshy prominence and mass of the upper arm, is well known to most readers, and that the "calf" is composed of muscles is also a plain fact of every day existence. Notwithstanding these observations, however, a vast amount of misconception exists regarding muscle, its nature, properties, and duties. Hence we purpose discussing in the present instance these various points which, it need hardly be said, possess a high interest for all who make the study of the body's structure a matter of attention.

The answer to the question "What is muscle?" is not difficult to find. In one word, muscle is the "flesh" of an animal's body. When we purchase of the butcher a pound of steak, we buy so much of the muscle of the ox. When we eat a mutton chop, we consume so much of the muscle of the sheep. What we eat in a sole, haddock, or salmon is muscle. The flesh of the lobster, found inside its toes, and forming the great mass of white fibres in its tail, is its muscle. And so with man. The muscles of the body are the "flesh" thereof, and in man, as in all other animals, it is the function or duty of muscles to pull together the parts between which they are attached, and thus to enable us to execute all the movements which characterise our daily life. These movements are, of course, very numerous, and in many cases very complex. Hence, for their due performance we find our frames to be provided with over two hundred muscles, each performing its own share in the work of motion. When we come to consider "muscles" in the light of the foregoing remarks, we readily discover that they give to the body its particular form, and to special parts thereof their special contour and outline. When a sculptor, for example, models the arm in any position, he requires to depict the form and outline of its muscular arrangements with fidelity, if his work is to be true to nature. We observe also how the shape of the limb changes as it moves, and how swellings give place to hollows, and *vice versa*, as its position alters. These changes are due to the altering shapes of the muscles which clothe and which are attached to the bones of the limbs and of the body at large; and it only requires us to place one hand on the front or palmar surface of the fore-arm whilst the fingers of the other hand are being opened and shut, to convince ourselves firstly that it is by means of the flesh or muscles that we move our fingers, and, secondly, that different movements bring different muscles into play.

But whilst all the ordinary movements of our bodies are due to muscles and their work, the nature of these movements is found to vary extremely. Only a wide

survey of the body's functions can teach us how large a part "muscle," in one form or another, plays in the works and ways of life. It is not alone in walking, running, and other common movements of our daily existence that muscles appear as highly important bodily structures. We may, as a matter of fact, enumerate no fewer than six distinct uses for muscular tissue. Thus, to include all of these uses, we may begin by saying that firstly, muscles enable us to escape all the *ordinary movements* of life, from writing a letter to leaping a hurdle. Then, secondly, we find muscles to aid us in *speech*. By aid of the action of the muscles of the lips, tongue, and larynx, or organ of voice, we are enabled to translate into audible form the thoughts and ideas of the brain. Muscle, thirdly, enables us to *breathe*; for by means of the *diaphragm* or *midriff* the great muscle which forms the floor of the chest—by those lying between the ribs, and by other muscles as well, the movements of breathing are conducted. A fourth use of muscles is that of *assisting digestion*. Part of the wall of the great tube which forms the digestive system consists of muscular tissue. The throat, stomach, and intestine each possess a muscular layer in their wall, and it is by means of this layer that the food is circulated about in the stomach, and propelled along the intestine, so that it may become thoroughly mixed with the digestive juices and fluids poured upon it in its course.

A fifth use of muscles is that of *circulating the blood*. It may open up a new view of a familiar part of our personal anatomy when we learn that the heart is simply a hollow muscle. The force which thus sends blood through the body is, in reality, the same as that by means of which we move our fingers—namely, the contraction of a muscle. When we add to this statement the fact that part of the walls of the arteries and veins which convey blood through the body is of muscular nature, and that its contraction aids the work of the heart in the distribution of blood, the function of muscles in the circulation is seen to be of very extensive kind.

Last of all, a sixth use for muscles may be found in "the expression of the emotions," to quote the phrase used by Mr. Darwin as the title of one of his most interesting works. It is by the contraction of the muscles of the face and body that we express to the outer world the sentiments we feel. The shrug of the shoulders is quite as eloquent of disdain or unconcern as are the words which indicate these traits. The signs of sorrow and of joy, as depicted in the face, are unmistakable, and are produced by the contraction of special sets of muscles. Even the act of "sneering," accompanied as is that feature of life by the raising of the lip of one side and uncovering the eye-tooth of that side—an act as eloquent in the dog as in the man—is performed by muscular action. We do not know why it should be that one set of muscles should be called into play in the expression of grief, and another set used in the expression of joy, or why different emotions may affect the same muscles in a different fashion. Probably no further explanation is at present possible than that which refers the expression of each emotion to the stimulus which passes along particular lines of nerves from brain to body, and which places the selection of these lines at the door of habit, use, and custom, as influenced by the tendencies of life in the ages of the past.

Be this as it may, we have made good our contention that "muscles" play a highly important part in the regulation and conduct of our physical life.

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## The Family Circle

"The child is father of the man."—Wordsworth.

"In bringing up a child, think of its old age."—Joubert.

### IS CONSUMPTION INFECTIOUS?

At the International Congress of Hygiene of Geneva, Professor Corradi proposed the following conclusions:—

1. The belief in the contagion of consumption dates from the most remote antiquity, and held its ground not only in the opinion of the vulgar, but as a scientific doctrine. 2. In the second half of the last century this belief reached its apogee, probably because the disease assumed a frequency unknown in the past. In most places, the State was obliged to intervene and take measures, in the interest of the public health, with the scope of impeding the diffusion of the contagion. 3. In the first half of our century, on the contrary, the doctrine of contagion lost ground. 4. In the last few years only has experimental science again taken up the question, endeavouring to give to the doctrine of contagion the support of experiments on the inoculation of consumption. Further, it is believed possible to demonstrate that the poison is represented by a bacillus or living particle.

5. The problem so clearly put by experiment must be solved by bedside observation. To pathology it belongs to reconcile this doctrine with the fact of predisposition and heredity. 6. But if contagion and transmission be possible, the conditions yet remain to be determined. 7. Meanwhile, hygiene must comport itself in regard to phthisis as it would with a suspected malady—that is, one capable of being communicated or transmitted under certain circumstances. 8. Especially must it consider the conditions of association. If association with the sick be less constant and intimate there will be less risk run, and the exhalations of the sick, which, apart from any specific action, undermine the health and predispose to consumption, will be avoided. 9. Although it is not certain that consumption can be communicated in articles of food, it is nevertheless prudent to avoid the flesh and milk of consumptive animals.

10. It is necessary to exercise great care in the choice of vaccine lymph, whether from the calf or humanised.

11. The institution of special hospitals, or at least of special wards, is strongly to be recommended.

12. The results of new studies and researches, undertaken with the scope of determining the conditions and means of transmission of consumption, will indicate the more special preventive measures it will be necessary to take.

13. Whatever opinion is professed as to the nature of consumption, no one doubts the great advantage the resistance of the organism has in the struggle; and therefore one of the greatest obstacles to the diffusion of this scourge of civilisation is to be expected from the practice of health-science, which assures the moral and physical well-being of the population.

"How to Obtain Light from Coal Gas," is the title of a small brochure by Mr. A. Clarke, 30, Watling-street, London. It may be profitably perused by all consumers of gas, indicating as it does briefly but clearly, the means by which the highest illuminating power may be produced with the least expenditure of gas. The author's theory of the proper method of burning coal gas as an illuminant is summed up in the following observation: "Reduce it to 'a moderately low pressure' before it reaches the point of ignition, where it should be heated before being consumed."—[ADVT.]

## HOW TO MAKE SOME USEFUL TOILET PREPARATIONS.

BY A. VOMÁČKA.

*Rose-Bandoline.*—Digest 800 grains of tragacanth with 1 quart of rose-water for two days at a gentle heat in a closed vessel. Strain the mixture, and perfume it with oil of rose. Or, macerate 1 part of quince-seed with 40 parts of rose-water for several hours, repeatedly agitating; strain the mixture, and perfume it with oil of rose.

*Almond-Bandoline.*—Prepared like the preceding, except that oil of bitter almonds is used for scenting. If either of the above are wanted coloured, an ammoniacal solution of carmine may be used.

*Brillantine.*—Mix 1 part of glycerine with 3 parts of castor-oil and 60 parts of alcohol. Perfume according to taste.

*Crème de Mauve.*—Mix 1 part of glycerine with 1 part of alcoholic extract of jasmin, and colour with a little fuchsine. Used to impart gloss to the hair.

*Oleolisse Tonique (de Piver).*—Dissolve 5 parts of castor-oil in 15 parts of alcohol, and flavour with oil of bergamot or oil of Portugal.

*Hungarian Cosmetic.*—Melt 30 parts of white wax on a water-bath, and add 20 parts of powdered almond soap and 20 parts of a solution of 1 part of gum arabic in 60 parts of rose-water. Stir the mixture until it cools, and perfume it with 1 part of oil of bergamot, or  $\frac{1}{2}$  part of oil of rose. By adding umber or lamp-black, the mass may be coloured brown or black.

*Bay Rum (artificial).*—Tincture of bay-leaves, 6 oz. (1 of bay-leaves, 10 of alcohol); oil of bay, 60 grains; borax, 1 oz.; carbonate of ammonium, 1 oz.; rose-water, 1 quart.

*Extrait Végétal.*—Essence of vanilla, 2 parts (1 of vanilla, 30 of alcohol); extract of orange-flowers, 1 part; extract of jasmine, 1 part; extract of rose, 1 part; extract of tuberose, 1 part; alcohol, 16 parts; rose-water, 20 parts.

*Amandine (for softening and beautifying the skin).*—Make a syrup from 1 part of sugar and  $\frac{1}{2}$  part of water. Mix 8 parts of the syrup with 2 parts of almond soap cream, until a homogeneous mass is obtained, to which is to be added, under constant stirring, 200 parts of almond oil, previously perfumed with 2 parts of oil of bitter almonds, 2 parts of oil of bergamot, and 1 part of oil of cloves. The mixture of the almond oil with the syrupy mass requires some practice, and, particularly towards the end, when the mass becomes stiffer, a considerable expenditure of force.

*Almond Soap Cream* is prepared by melting 250 parts of pure lard and mixing with the melted fat 100 parts of solution containing 25 per cent. of caustic potash. The latter must be added very slowly, and under constant stirring. When all is added it is gradually allowed to cool, the stirring being continued. It is then transferred to a mortar, and triturated with addition of 6 parts of alcohol and  $\frac{1}{2}$  part of oil of bitter almonds, until it is creamy and homogeneous.

*Olivine.*—4 parts of powdered gum arabic and 12 parts of honey are intimately mixed, and the mixture triturated with 6 parts of Castile soap and with 2 yolks of egg for every ounce of gum arabic used. To this is gradually added, under continued trituration, a previously prepared mixture of 60 parts of finest olive oil, 2 parts of oil of sesame, 2 parts of oil of bergamot, 2 parts of oil of lemon, 1 of oil of cloves,  $\frac{1}{3}$  of oil of thyme and  $\frac{1}{3}$  of oil of cinnamon, and the whole thoroughly triturated until a homogeneous mass results.

*Almond Paste.*—16 parts of blanched bitter almonds are



rubbed to a fine paste, and this is gradually added to an intimate mixture of 30 parts of honey, 15 parts of yolk of egg, 30 parts of almond oil,  $\frac{1}{2}$  part of oil of bergamot and  $\frac{1}{2}$  part of oil of cloves.

*Rose Milk* (Lait de Rose).—One part of finely rasped Castile soap is dissolved, with a very gentle heat, in 4 parts of rose-water; 1 part of white wax and 1 part of spermaceti are next added, and, when they are melted, a strained almond mixture is added, prepared from 16 parts of blanched sweet almonds and 1,000 parts of water. The addition must be made gradually and under continuous stirring. Finally, 150 parts of alcohol and 8 parts of oil of rose are finally incorporated with the mixture.

*Frangipanni Sachet Powder*.—Orris-root, powdered, 1,500 parts; vetiver, powdered, 120 parts; sandal-wood, 120 parts; oil of neroli, 2 parts; oil of rose, 2 parts; oil of sandal-wood, 2 parts; musk-bag, powdered, 20 parts; civet, 5 parts.

*Heliotrope Sachet Powder*.—Orris-root, powdered, 1,000 parts; rose-leaves, 500 parts; tonka bean, 250 parts; vanilla, 120 parts; musk, 4 parts; oil of bitter almond, 3 parts.

*Aromatic Cachous for the Breath*.—Mace, 420 grains; cardamom, 80 grains; cloves, 40 grains; vanilla, 120 grains; orris-root, powdered, 160 grains; musk, 4 grains; sugar, 300 grains; licorice root, powdered, 500 grains; oil of peppermint, 32 drops; oil of lemon, 20 drops; oil of neroli, 12 drops; oil of cinnamon, 6 drops; pure extract of licorice, q. s. Pulverise and mix the solid ingredients, form them into a pilular mass with the extract of licorice, and divide it into granules, weighing one grain each. Coat them with silver-leaf.

**WORK A LAW OF NATURE.**—Work is so thoroughly a law of nature for man as well as animals, that any organ left inactive decays from day to day. Thus, the well-being of an organ is indissolubly connected with its activity. One of the most curious illustrations of the above principle is the reaction which the amputation of a limb exercises upon the brain. That organ regulates the movements of every member of the healthy body, but if one member be wanting, then the respective portion of the brain has nothing more to do, and consequently exhibits a tendency to wither away. Several instances have already been recorded which indicated a probable injury to the brain resulting from deficient activity in some portion of the body, and now M. Bourdon has communicated to the Paris Academy of Medicine a case of brain-wasting arising from the amputation of a limb. A soldier, whose left arm had been removed some forty years ago, lately died from inflammation of the brain after thirty-six hours' illness, and the *post-mortem* examination showed that one side of the brain presented differences from the other. During the later years of the man's life, the leg corresponding with the amputated arm gradually became lame, the injury done to the brain having, it is considered, reacted upon the leg.

THE excessive mortality in large towns, as compared with country districts, is no doubt due to many causes, some of which are outside our province as sanitarians. Poverty, hunger, and misery are terrible foes to fight; and though, on the whole, the inhabitants of towns are better off than the agricultural labourers, yet these last do not herd together in the country as they do in towns, and thus avoid the worst consequences of their low fortunes.

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## Recreation and Health

"Health is the vital principle of bliss,  
And Exercise of health."—Thomson.

### PHYSICAL EXERCISE.

By C. W. CATHCART, M.B., F.R.C.S.

(Lecturer on Anatomy in the Edinburgh Medical School, &c.)

#### VARIETIES OF EXERCISE.

In the two previous articles on this subject, we spoke briefly of the effects of physical exercise on the body, and of the advantages to be derived from it, especially in the case of young people. We may now go on to consider some of the various forms in which this exercise may be taken, and afterwards we may allude to one or two questions which are necessarily connected with the subject, such as the regulation of the amount of exercise, and its relations to food and clothing. It must not be supposed that we think of describing the various games or athletic pursuits to which we shall refer. That would be superfluous for our purpose, and much beyond our reach at present. We shall, on the contrary, assume a previous acquaintance with them and discuss them only with regard to the quality of exercise which they afford, and the circumstances under which they may be found of most value. It may be convenient to divide outdoor athletic exercises into two groups, *i.e.*, the milder, and the more violent; and to consider by themselves those associated with the gymnasium, such as gymnastics, single-stick, fencing, and boxing; and Indian clubs, dumb-bells, and bar-bells.

Taking the milder forms of open-air exercises first, and leaving the more violent till afterwards, we shall now consider briefly:—(1.) Walking and climbing, also swimming. (2.) Riding on horseback, bicycling, and tricycling. (3.) Games involving running, such as "tig," prisoner's base, and hide-and-seek. (4.) Golf. (5.) Lawn-tennis.

In walking we have undoubtedly the natural mode of progression for man, and it affords us means of exercise which, taken for all in all, cannot be surpassed by any other one form of exercise. It is a mistake to suppose that the leg-muscles alone are involved in walking, for there is also an important action of those of the trunk and shoulder as well. This will be understood when we remember that while the weight of the body is transferred alternately from one foot to another, the whole trunk must be balanced accordingly, so that the main trunk muscles are thus being constantly contracted and relaxed. At the same time each arm is swung forwards with the opposite leg, and the corresponding muscles are thus brought into play. The exertion required for walking varies very much with the speed. A brisk medium pace is, perhaps, the easiest, if it is to be kept up for some time; but when we try to walk at the fastest possible rate, there is, perhaps, no mode of progression which requires such an effort, or which brings into play a larger number of muscles. This, however, may be left out of consideration until we come to more violent exercises. When walking is adopted as the chief mode of exercise, care should be taken to avoid the strictly so-called "constitutional" walk. There should

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always, if possible, be an object in view, and a pleasant companion is an agreeable, as well as a useful, addition. We cannot walk healthily if the feet are cramped or pained; therefore see that the boots are an easy fit, and that the heels are low. A great deal might be said as to the proper shape of the boot, but this would lead us away from our present subject, so we must meanwhile refer those who are interested in the matter to a translation of Professor Meyer's pamphlet, "Why the Shoe Pinches?" or to Messrs. Dowie & Marshall's pamphlet, to be had at 455, Strand, London. One of the great advantages in walking, as a means of exercise, is that it may be used by all, and is everywhere available, and it is so important as a general exercise that, whatever other form of exercise be selected as the chief one, walking should always be introduced as an element in addition. For this purpose it has been adopted as part of the training for rowing and running, while an old prize-fighter used to tell us how he sometimes walked thirty miles a day when he was training for a "big fight."

Every healthy person, man or woman, should be a good walker, able at any time for from six to twelve miles a day at least, and for double that when gradually brought up to it. The points to be attended to are—to see that the walk be brisk and vigorous, not of a loitering or dangling kind; that there be some object in the walk besides its being a routine constitutional (*i.e.*, not like the staid promenade of the orthodox ladies' school), and if possible in pleasant company; that there be no tight clothing, whether for the feet or body, which will constrain and impede the natural movements of the limbs and trunk; and that the walk be taken as far as possible in the fresh country air. In regard to this latter particular, although towns are increasing so rapidly as to make it almost a journey to get out of them on foot, still we have so many suburban tramways and railway lines that in a few minutes we can find ourselves in the country, where the air is fresh and pure.

Whenever an opportunity presents itself for a little climbing in the course of a walk, it should be taken advantage of. We gain variety of muscular action, as well as increase the exertion, and we get into regions of purer air and fresher breezes at the same time.

What may be considered as the weak point in walking as a mode of exercise is the comparatively small play which it gives to the muscles of the shoulders and chest, while it is still less for those of the arm. This should be compensated for by the use of light dumb-bells or Indian clubs, or some other form of exercise which brings into play the arms and shoulders. One of the forms of exercise which requires the action of the muscles of the arms and shoulders as well as those of the trunk and legs is swimming. This, however, for many reasons, cannot be used as a means of exercise except by a few and at certain seasons of the year, but where possible it should always be practised. The great pity is that boys and girls do not learn it, as a rule, while at school. Every large town should be well provided with swimming-baths, and if it could be made compulsory for all scholars at a certain age—say twelve—to learn to swim, it would be a great advantage to all concerned, and would be the means of saving many valuable lives.

(To be continued.)

## TREES IN TOWNS.

SOME time ago the question of the utility in a purely sanitary sense of planting trees in towns was debated at the International Hygienic Congress at Geneva, and for some weeks afterwards it formed a topic of comment in the press, both here and on the Continent. There can be no

doubt to which side the weight of evidence and force of argument attached. On the negative side Professor Plachaud displayed considerable dialectic skill in pointing out the possible injury that would accrue from over-planting, but the authorities on the other side, both in number and in scientific weight, prevailed. There are, indeed, more reasons than purely sanitary ones why the planting of trees in public streets should be generally adopted. The cultivation of a love of nature has an important bearing upon the life of every citizen, and its development tends to the refinement of the mind and the elevation of the public taste. For some time there has been a growing sense of the bare appearance that is characteristic of the streets of our principal towns, and of the aridness that the lack of trees and shrubbery of any kind gives to the atmosphere; and with this has come a desire to utilise every spot that presents itself for the opening up of spaces in the great centres of population, and planting them with trees, flowers, and shrubbery. From what may, therefore, seem in one sense an aesthetic point of view, there is undoubtedly an advantage in such experiments, but in a purely sanitary sense the advantage is infinitely greater. Trees in the centres of population perform many services as well as that of pleasing the eye. They afford shade and shelter from the fierce heat of the sun in the warmer months of the year. They aid in the distribution of moisture through evaporation from their foliage, whilst drainage is facilitated in many ways by the action of their roots. It will thus be seen that in hygienic alone trees could be made to play an important part. They are, in fact, sanitary agents in many respects quite as useful, and certainly more consistent and persistent than the officers of our sanitary authorities. Another property that renders trees in populous places serviceable from a sanitary point of view, is the fact that they absorb the noxious carbonic acid gas, reducing it to carbon and oxygen, and after assimilating the carbon they give back to the air the pure oxygen, so vital to the health of the human system. In America the authorities have long since seen the great advantages that accrue to communities from the profusion of trees. In the public streets of nearly every town in the west trees abound, and the air is consequently purified from the noxious vapours that are apparently indispensable to civilisation in the mass. In the metropolis the growth of this feeling has been very marked during the last few years, and the Thames and Chelsea embankments are manifestations of the beneficent action of the authorities in this direction. But there is still much to do, and ample room and power to do it. For miles along the river, near the most densely crowded parts of the city, nothing green is visible, and surely it would be an experiment worthy at least of an earnest effort on the part of our authorities to plant trees in certain places at the east end, especially by the river side, where they would be a source of pleasure to the eye of the toilers, and health-giving to the atmosphere. It is in the east of London that some such reformation is most urgently needed; in the north, west, and south, trees flourish in abundance, more especially in the latter, and it is surely, therefore, imperative upon our sanitary boards to see that the vicinity of the homes of the masses should have their fair proportion. We trust that, when the long-talked-of Municipal Bill has been carried by the Government, the municipal authorities will take this matter earnestly in hand, and afford to the hard-working population, who spend their lives in comparative penury—rarely seeing the country—a pleasure serviceable at once to their moral and physical faculties.—*Land and Water.*



## Jottings from the Journals

"Th' ingredients of health and long life are  
Great temperance, open air,  
Easy labour, littl' care."—*Sir Philip Sidney.*

THE CONSUMPTION OF HORSEFLESH IN FRANCE.—The following statistics with reference to the consumption of horse-flesh in Paris may be found interesting. The municipal statistics of the City of Paris show that in 1881 the Parisians consumed 9,300 horses, and 400 asses or mules, which amounts to about two million kilogrammes of meat. The *Hygiène Pratique et Gazette Hebdomadaire des Sciences Médicales de Montpellier* regards this form of food as a valuable resource, when it is considered that many French people scarcely ever touch meat, in consequence of the enormous disproportion between the production of cattle and the population of the country. The same journal observes that science has long demonstrated the excellent quality of the flesh of the horse. This animal is essentially herbivorous, and no noxious element is elaborated in its animal economy; whilst its organic resistance to disease is such that out of 3,000 horses which were cut up, M. Pierre, a well known veterinary surgeon, did not find one in which the viscera showed any traces of morbid lesions. Like veal and young beef, the flesh of a young horse is white, and its nutritious qualities are in direct relation with the age of the animal which furnishes it; but, when the colt is three years old, its meat, already deep coloured, is very nourishing. When the horse has attained full age, its flesh contains, in a maximum quantity, all the nutritive principles which are necessary. Liebig and Moleschott have pointed out that horseflesh contains more creatine—that is to say, more albuminous matter—than ox-beef, which makes it largely nourishing. It has, in fact, been demonstrated that four kilogrammes of horseflesh are as nourishing as five kilogrammes of beef. The colour is not displeasing, nor is the smell unpleasant; and its use in the treatment of diseases for which raw meat has been recommended does not present the inconveniences which are often met with in the raw flesh of beef or mutton; in fact, every day large numbers of oxen, cows, and sheep are killed which are known to be diseased, and of which it is feared to lose the sale. This can never be the case with regard to the horse, for most horses used for food are sent to the slaughter-house simply because they have become old or incapable of working, or because some accident has disabled them.—*British Medical Journal.*

\* \* \*

EASY RIDING IN THE CAVALRY.—It is good news for man and horse that the old, ugly, bumping style of riding at a trot, so long in vogue in our cavalry, is to be abolished forthwith. The *Army and Navy Gazette* informs us that, owing to the many representations made by a cavalry officer who was on Lord Wolseley's staff in Egypt, the objection hitherto entertained at the Horse Guards against the British cavalry being allowed to rise in their stirrups in trotting has been overcome, and that orders will be issued directing all recruits and soldiers to rise in their stirrups in the manner practised by civil equestrians. This new and salutary regulation, which we understand is in force, without a single exception, in all foreign armies, will confer a very great boon both on the horse-soldier and on the troop-horse. The men will become better riders, and the horses will bear their burdens more easily.

\* \* \*

DANGER OF BATHING WHEN HEATED.—A lady has lately been at a noted watering-place in the Salz Kammer-

gat, who, it is supposed, from want of the needful precaution of cooling before her bath, returned home one day with a violent headache, and within three days became totally blind. Hopes are entertained by some eminent oculists that her sight may be restored, but the circumstance is none the less a warning to those who consider it superfluous to cool themselves before taking a bath. Instances have lately been reported in which similar acts of imprudence resulted in one soldier's hair turning white, and produced in the case of another total paralysis of the tongue.

\* \* \*

It appears from recent statistics on suicides in great cities that Paris occupies a very unenviable position for its number of suicides. The ratio of suicide for every million inhabitants averages yearly 402, while in Naples it is only 34. The ratio for other cities is as follows:—Stockholm, 354; Copenhagen, 302; Vienna, 287; Brussels, 271; Dresden, 240; St. Petersburg, 206; Florence, 180; Berlin, 170; New York, 144; Genoa, 135; London, 87; and Rome, 74. With regard to New York, it is said that the majority of suicides in that city are Germans.

## Our Bookshelf

"Reading maketh a full man."—*Bacon.*

### TWO HANDY BOOKS.

I. *A Handbook of Nursing for the Home and the Hospital.* By CATHERINE JANE WOOD. (London: Cassell & Co., Limited.)

II. *The Ladies' Physician.* A Guide for Women in the Treatment of their Ailments. By "A LONDON PHYSICIAN." Fourth edition. (London: Cassell & Co., Limited.)

THE spread of education has in no instance, perhaps, achieved such important results as in the effects witnessed in matters relating to the preservation of health amongst the people. Literature relating to health topics was but poorly represented on the booksellers' counters only a few years ago. Now there is a full supply of works devoted to instruction in the care of health and to the treatment of simple ailments. It is, of course, true that there may be some justification for the old axiom that the man who is his own doctor has a fool for his patient. But the proverb does not apply in the least to the preservation of health, and to the duty which is laid upon all of endeavouring by every lawful means to keep well, and to ward off disease by every art in our power. Preventive medicine is the medicine of the people, and it is, moreover, a branch of science that grows year by year in interest and extent. Such books as those before us assist in no small degree this most useful of all works—that of avoiding disease, and of knowing how we may aid ourselves when ailments appear on the scene.

The "Handbook of Nursing" strikes us as being an eminently useful and handy work. It is written in an attractive style, its language is that of simplicity, and it is not by any means of bulky size—three requirements of absolutely essential nature where public instruction is concerned. It is written by one who has evidently had a long, sound, and practical training in the duties of the nurse; and when we discover that the authoress has included in her manual

SANITARY INSPECTIONS.—Fee for Survey and Report, in London, 2 Guineas. Estimate given and Improvement Works carried out when required.—THE SANITARY ENGINEERING Co., 115, Victoria-street, Westminster, S.W.—[ADVT.]



chapters on the "symptoms of disease," on infection, and on general health-laws, together with lists of simple remedies, antidotes to poisons, and a full glossary of medical terms, the complete character of the work may be readily assumed. The style of the book we have termed attractive, and the praise is merited, because the volume is really written in a manner which interests the reader. For example, let us quote what is said regarding the qualifications of a nurse:—"It is a popular delusion that every woman is born a nurse. Every woman is not born a cook or a seamstress. Therefore, why should she be born a nurse? All women share in common the deftness of the hands, the quickness of perception, the knowledge of the mysteries of domestic life, required for either of these callings, and, shall I add, the patience to put up with all the little details of these pursuits. But for each and all a special training or instruction is needed, and that required for a nurse must be sought in a hospital, where only sickness in all its varieties is present continuously. Six general qualifications are needed to make a thorough nurse—viz., presence of mind, gentleness, accuracy, memory, observation, and forethought. These six should form the groundwork of every woman's education, whatever may be her destined sphere; but, unfortunately, they are so often omitted that much valuable time is lost in developing in the probationer these essentials of a woman's character."

Now all this is attractively put, and is charmingly rendered, but we fear the authoress ranks as qualities to be implanted by education many which are really inherent, and born with the individual. Be this as it may, the work throughout forms a trustworthy guide to all duties connected with nursing. It is a thoroughly practical manual, and as such merits a place in every home. The authoress does not underrate the toil which the nurse must be prepared to undergo. "No woman," says this work, and the words are most true, "should offer herself for training as a nurse unless she is prepared to do real hard work, to practise incessant self-denial and patience, to submit to a perpetual crossing of her will, to take her daily share in sights and occupations repugnant to every refined and sensitive mind; but, still, if she can make up her mind to all this, she will never regret the work which she has undertaken."

There is much in this book which the mother, as the nurse of her family, may read with advantage. "When will parents," says the authoress, "learn to bring up their children in common-sense principles?—plenty of fresh air constantly, plenty of out-door exercise, good wholesome food, early hours—all infinitely better than the £20 worth of change of air, bought with much inconvenience by sending the children into the country once a year. Change of air every day is decidedly more natural than change of air once a year. Mothers, for you I write; do dare to be brave for your children. I speak with an intimate knowledge of sickly, delicate children, and, from the experience of many years, I can safely say that I *never* saw the most delicate child derive anything but the most decided benefit from a judicious and constant supply of fresh air, the child, at the same time, being warmly clothed and the room properly heated. Constant and systematic ventilation would save many a doctor's bill, and keep the children in good health, even in the heart of London."

For nurses, and for all having the care of the adult sick, and of children in health or illness, this book constitutes a *vade mecum* of the most valuable kind.

"The Ladies' Physician," issued by the same firm, is the work of "A London Physician," and is devoted to a plain and practical exposition of feminine ailments. Much good

and wise counsel, couched in plain language, is given in the pages of this work, and the volume is emphatically "a mother's book," in every sense. The author is, however, just a little over sanguine, when (p. 9), in speaking of stays as a support to a feeble spine, he says of the fashion of tight-lacing that "the fashion has, fortunately, long ago passed, and a very small waist is no longer regarded as elegant or natural to woman." We wish these words could in any sense be termed correct. If there is any evil against which a perennial health-crusade requires to be waged, it is the fashion of constricting the waist. Full information on all the details connected with the healthy existence of the sex is given in this volume, and the section on the care of infants is highly judicious in its information, and contains many details which should form part and parcel of the education of every mother. There is no disguising the fact that in this civilised life of ours, the ailments of women have grown very numerous, and are often difficult to cure. Such a work as that before us will show the value of the means which are at the command of all for the preservation of health, and will enable the careful lady reader to avoid many of the cases of disease which want of thought and carelessness inevitably entail.

## Our Letter-Box

"Conference [maketh] a ready man."—Bacon.

### NOTICES TO CORRESPONDENTS.

*All Communications for the Editorial Department (including specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 74-76, Great Queen-street, London, W.C. Those intended for the Publishing Office to be sent to "THE PUBLISHER," at the same address.*

*Contributors are requested to send stamps for the return of the MSS. in event of non-acceptance. Every care will be taken to ensure the safety of MSS., but the EDITOR and PUBLISHERS cannot hold themselves responsible for accidental loss.*

*Correspondents are requested to write on one side of the paper only. The EDITOR disclaims responsibility for the opinions expressed by Correspondents.*

## LETTERS TO THE EDITOR.

### QUACKS.

SIR,—Now that you are showing the Londoners and others how far ahead of them we of the provinces are, may I ask you to publish in *HEALTH* the following, taken from the Liverpool weekly newspapers of Sept. 15. I think the authorities of every town should go and do likewise. As a medical man, I personally thank you for your exposure of these pests. Only those who know the misery they cause can be adequately grateful for the service discharged to society by a ready pen and a good will like yours.—

Yours truly,  
Liverpool, Sept. 20, 1883.

M.D.

"DELIVERING INDECENT BOOKS IN LORD-STREET.—A man named Walter Thompson was charged on a summons issued by the police authorities for delivering to passengers in Lord-street, on the 10th of September, a printed book referring to a cure for certain diseases of a secret kind. Mr. Marks conducted the case for the prosecution. The defendant did not appear. Mr. Marks explained that Thompson was summoned under the 32nd section of the Liverpool Improvement Act of the present year. He was seen in Lord-street, about ten o'clock on Monday morning last, delivering to persons in the street a pamphlet containing thirty-two or thirty-three pages, and a slip accompanying it. He was stopped by a police-constable, who looked at the pamphlet to see what was its nature, and then asked Thompson for whom he was delivering them. He replied that he was employed by a Sheffield firm, trading as Wilkinson & Co., to deliver a quantity of the pamphlets in Newsham-park during the time the show was being held, and having a large stock left on his hand, he was delivering them in Lord-street. Mr. Marks pointed out that the only question was whether it was a publication



referring to diseases of the kind that the section of the Act applied to. He did not care about pointing out the particular parts of the publication proving that it came under the provisions of the Act, but his Worship would see the paragraphs marked in the copy handed in. He had no hesitation in saying that in his opinion it was a filthy publication. After looking through the pamphlet, Mr. Raffles said it was quite clear that the publication referred to diseases specified in the section of the Act under which the summons had been issued. Police-constable 466 proved receiving one of the pamphlets from Thompson, and also said he saw the defendant delivering them to people passing along the streets. Mr. Raffles said he saw that it was not necessary to call the persons to whom the book was delivered—they were simply required to prove the nature of the publication. He was very glad such a law had been passed, as it was a most disgusting thing for publications of this sort to be distributed. It would be stopped now. Mr. Marks remarked that he thought it right these people should know that his Worship had the power to give them absolute imprisonment without the option of a fine. Defendant was fined 10s. and costs.

## QUERIES AND ANSWERS.

[We would direct the attention of our correspondents to the fact that, owing to the necessity for sending HEALTH to press early in the week, answers to queries cannot, as a rule, appear in the succeeding number of the journal. Every effort is made to secure punctuality in the replies, but we must ask the occasional indulgence of our readers, owing to the large amount of correspondence, which requires assortment and reply.

We must also request correspondents who write enclosing stamps for copies of HEALTH, to address their inquiries to the Publisher, and not to the Editor.]

[Correspondents will please note that Queries addressed on Post-cards are consigned to our waste-paper basket. If information is worth leaving, it is at least worth a letter.]

### GENERAL.

BEN (DAVIES) is respectfully informed that, in accordance with a fixed rule, queries on post-cards are not attended to. All queries should merit being addressed per letter.

J. PALMER.—1. Many thanks for your note and enclosure. The bill you send is the production of a firm of "Hunters" whose notoriety as quacks is beyond belief. Please send us the "Book of Health," and oblige. 2. We have used a reading-lamp with green (light tinted) glass for night work. Failing that, use an opal globe. The eye-shades sold by all druggists for reading at night are highly to be commended. A good paraffin lamp with an opal globe is highly useful.

R. M. H.—The production you send is a quack one. Have nothing to do with it (see also "Medical" replies).

CONSTANCE.—The end of a bone which ultimately joins the shaft.

BELL G.—Useless for our pages and purposes; thanks.

ANDREW L.—A term applied to the abolition of pain.

X. Y. B.—Derives its name from the operator who invented the process.

THE AUTHOR OF "KALLOS."—We regret that we cannot insert your remarks, more especially as our reviewer and yourself differ, not in matters of fact, but of opinion. You entirely mistake when you speak of the review being either unfair or prejudiced. We had no interest to serve save that of placing before the public an unbiassed opinion of your book. We did so, and if you object, there the matter must end. We fail to see wherein you can be aggrieved; and as your work and your letter are anonymous (you don't mention why your name is not attached thereto), your criticism loses a good deal of the respect it might otherwise have obtained. As it is, your book was reviewed with care, and from a perusal of it, since the receipt of your note, we are glad to be able to say that we can endorse fully our reviewer's opinions. Your neglect of "heredity"—a point you specially remark—is a very grave omission.

### SANITARY.

A. O. E.—Try the effect of "Sanitas" fluid to floors and walls, and have the latter repapered and the paint renewed.

EXCELSIOR.—We have not heard of the invention.

A. S. B.—The proper width is 3 ft. 6 in.; but opinions differ regarding the exact size.

ELLEN C.—The process requires technical instruction in chemistry and physics.

A. C. T.—No; personally we do not think there is any danger incurred; but to make certain, write to the proprietors, pointing out what you have seen noted, and asking their opinion. We, ourselves, believe the pottery you name is quite safe.

RICHARD WHYTE.—We think you mistake what is meant by a "motor," as applied to the sewing-machine. A perfect "motor" is as independent of the sewer's own strength as is a steam-loom. All that has to be done is to guide the seam and to regulate the motor's speed. We are not aware that in the new "motor" for the sewing-machine (an account of which was recently published in the *Times*), the worker has to make any exertion at all. This, at least, is as we understand it. Read the *Times'* account, and we fancy you will see you are mistaken regarding the non-utility of the "motor."

### MEDICAL.

R. M. H.—Yours is a case in which nervous fears count for much. You must not grow morbid. You do not suffer from any disease. What you describe is a perfectly common sequel to robust health. Give the enlarged veins support; they will not cause the slightest disease, so keep your mind easy on that score. The step you speak of as a future one need cause you no anxiety, for you are only over-sensitive and have been needlessly alarmed. Take a teaspoonful of Fellows' "Syrup of the Hypophosphites" in a wineglassful of water thrice daily before meals; and, above all, call your education to your aid; live cheerfully, read works which will cause thought, and trust the rest to nature.

NEW ZEALAND.—[Your query never came to hand. We attend to all inquiries we receive.] The advice you received is sound, and by following it, we are convinced, you would escape your present symptoms. The sea voyage would cure your pains. New Zealand has a capital climate, and almost any part would suit you. We should advise the application of electricity in your case, under medical advice, and by means of a galvanic machine. The "chains" you mention are reliable. There is no indication of your being in serious ill-health; and a tonic sea voyage would, we are persuaded, do much good, even if you did not permanently reside abroad.

J. P. S.—No; not if both sides are healthy. This was long ago proved. If disease exists, it is apt to become intensified by such marriages; but if both parties are healthy, there need be no fear of evil consequences.

M. DUBOIS.—1. The hairs may be pulled out if not over-numerous; but the appearance of grey hairs in such a case is due either to health-derangement or to some special hereditary features. Use a little Macassar Oil. No; don't use the wormwood. See our "Hair" papers in early parts of HEALTH. 2. The tincture named is of no service for the skin; but might do harm. Use rain-water, and avoid salt, which is often irritating. We recommend you to use "Æsculap" water as a mild aperient and antibilious medicine.

H. MANSON.—Wash out the mouth with Condyl's Fluid and water. See note in HEALTH (page 359) on the use of carbolic acid in the case of the teeth. Use Bragg's "Charcoal Biscuits" for the stomach and breath. A slight aperient will relieve your morning symptoms; use "Æsculap" water. Write again if you require further advice. Use camphorated chalk for the teeth. See article on the teeth in No. 1 of HEALTH.

ERIN.—We are not aware that any regulation size of "calf" exists for a Highland regiment. If in doubt, write to the War Office or the Adjutant of the corps. Your calf is not, as we judge it, very small for your size. You should scan the calves of the corps you speak of, and judge for yourself.

ENO.—No; not at all. Varied circumstances affect the condition you name. There is no one normal standard of time; we should rather take as a standard the individual feelings. The "excess" you speak of leaves not a tithe of the effects depicted by quacks. (Send us the pamphlet.) Try the effect of the tonic recommended to "R. M. H." above for the head-pains.

CRINIS.—See our papers on the "Hair" in Parts I., II., and III. HEALTH, where full directions are given for scurf.

GREAT TOE.—Avoid all pressure; paint the joint with tincture of iodine daily for some time. If this does not suffice, write again.

D. C. B.—Care in digestion and strict avoidance of constipation. Use "Victoria Ofner Bitter" water. Use also cold-water injections and tannin ointment. A vegetable dietary would also suit you. Glad to advise further if necessary.

M. HAMILTON.—The worm was the *Ascaris lumbricoides*, or common round worm. It is difficult to say how infection comes—possibly from unwashed and badly-cooked vegetables or impure water. It is possible there may be no others; if doubtful, use the remedy *Santonin*, and the following prescription will suit you:—*Santonin*, 2 grains; compound scammony powder, 8 grains. Make a powder; to be taken in the morning after a fast, and to be followed by a purge of castor oil.



**APPIN.**—Your case is one for fresh air, rest from all study for a time, cold sponging, and the tonic recommended to "R. M. H." above. Your nervous symptoms are due to weak or overstrained physical powers, and you must seek change and rest. Try residence at Trinity or Granton near the sea for a week or two, and give up all stimulation and study.

**SUGAR AND MILK.**—Not so far as we know; we do not see either the difference or importance of the practices you name.

**W. J. ROBERTS.**—Thanks for all your good wishes. Our advice to you is to undergo a thorough examination (especially of the kidneys) by a competent physician, of which there are several in your town. We regard you as in want of change and tonic, with residence at Tynemouth, which is near you, for a time. Your phial received, and our examination thereof confirms us in the opinion above expressed. You have "run down," so to speak, and require careful attention and bracing up. Glad to be of further service to you if required.

**W. GRIFFITHS.**—We are much interested in your letter, and shall be glad to read anything you may send us. The question of alcohol in the secretions is a very complex one, chemically speaking, and we do not regard it as settled finally either one way or the other.

**TYNEMOUTH.**—You will possibly benefit most from a course of hot salt baths in the first place, and by making a sweeping change in your dietary in the second. Live plainly, but well; avoid stimulants as a rule; for the pains, 15 grains bromide of potass in water on alternate nights at bedtime. For the itching, the baths will be beneficial. Write again if not improved.

**J. NORWOOD.**—If your account be correct as to having detected "life" in the pustules (which, by the way, you said nothing of before) the disease is probably "itch." For this, or for any similar affection, rub in sulphur ointment for three nights in succession, and wash off on the fourth day in a warm bath, changing the clothing and fumigating it with the sulphurous acid gas of burning sulphur. See also to your general health.

**AJAX.**—1. For excessive sweating of the hands, try soaking the hands night and morning in warm water in which about half an ounce of chloride of ammonia, and about an ounce of carbonate of soda crystals has been dissolved. This should be used so as to cause "goose-skin" slightly. After bathing the hands, rub them with this embrocation: tincture of iodine 1 drachm, compound camphor liniment and glycerine, of each, a drachm and a half; compound liniment of belladonna, 1 oz.; eau-de-Cologne, 1 drachm. See also to the general health. 2. Only by practice, and we should imagine, perhaps, by aid of a person closing the mouth gently when asleep.

**MARY W.**—The affection in your case is probably of a nervous character, seeing that your bodily health is good as a rule. We should advise you to try the effect of 10 grains bromide of potass in water, as an experimental treatment when the ailments come on. Peruse also our papers on "Headaches," in *HEALTH*, Part I., and write again if you fail to find relief. See also, "Hints about Medicines," *HEALTH*, No. 16, p. 250.

**WRITER.**—You might read a paper on "Massage," published in *HEALTH*, No. 19. We believe both methods you name were introduced simultaneously by several persons into medical practice. We recommend you to peruse our notice of the "Zander" Institute, 7, Soho-square, London, W. for information concerning the process of rubbing, &c., there practised by means of suitable apparatus.

**W. BURTON.**—There is a procedure which consists in obliteration of the veins. That might suit you, and can be performed by any surgeon. But we should not have thought the veins in the affection you name would have given you much trouble. Try the effect of cold sponging.

**ANXIOUS.**—1. The gentleman you name is a qualified medical man. We know nothing of his mode of practice; but we do not hesitate to say that the fee you name is a heavy one. 2. The appliances mentioned are genuine. See in Carpenter's article in last number of *HEALTH* on "Electrical Appliances." 3. The medical man you name is in practice in London. Send real name and address.

**G. CUMMINGS.**—Perhaps, under all the circumstances, you had better not take the sea voyage. Yarmouth, Whitby, or Scarbro' would suit you, only be careful of chills. Regarding the other matter you speak of, we should say that where medical opinions have differed so strongly as in your case, there must remain some considerable element of doubt. We do not think you should feel over-anxious. Who told you a valve had been strained?

**E. J.**—We believe there is a "Surgical Aid Society" which aids in the purchase of apparatus for the poor. You might inquire of the surgical instrument-makers about the apparatus, stating for whom it was required.

**BEWILDERED.**—Your description was that of the affection we named. You should use the tar ointment; and, if in doubt, we cannot see what remains but to consult a specialist in skin diseases.

Glad to advise you further, if you send a full and complete description of your case.

**E. C. C.**—Injection of cold water; but cure depends on the cause. Look to your digestion, and see advice in No. 24 of *HEALTH* to "Fylde."

**C. R.**—What you name is perfectly natural in robust health, and only becomes injurious when excessive. Sleep on a hard mattress; use cold sponging each morning; take moderate exercise; avoid stimulants; and, above all, don't be morbid. A teaspoonful of Fellows' "Syrup of the Hypophosphites," thrice daily in water, should also do good. Don't overwork.

**E. W. C.**—See (and follow) advice to "C. R." above. Endeavour to cultivate a cheerful frame of mind. You have no cause to feel alarmed, but you must live regularly and quietly in future, for the sake of those who depend on you, and whose helplessness should be your strongest incentive to get well and to keep well.

**MOTHY.**—See our "Hair" papers in the monthly parts (not the numbers) I., II., and III. of *HEALTH*, where full information was given regarding the hair.

**A. JAMES.**—The principles are an evidence (so far as we can see) of low health. Your friend's hours are too long, sleep too short, and exercise unlimited. Let him try the tonic recommended to "C. R." above; wash the face with hot rain water and Pears' Soap night and morning, and avoid chills. See also advice to "Flora" in *HEALTH*, No. 21. Vaccination had nothing to do with the affection.

**C. E. PEGLER.**—1. The plan you suggest is not advisable, inasmuch as different cases present different phases, and the same remedy would not apply to all. 2. Soda is prejudicial; tends to dryness and cracking of hair. 3. We have seen such troubles disappear under a course of cod oil to which syrup of iodide of iron has been added.

**A. REMBAF.**—See advice above to "C. R."

**X.**—See advice to "C. R." above. There is no specific. You must attend to your general health. The occurrence you name is not a sign of ill-health.

**ETUDIANT DE SCIENCE.**—1. Your views may be sound enough; but as people don't set out in life with the idea of risk, there can be no need to adopt the plan mentioned. In a lighter and purer state of morals, we may not require such notice. But we are far from attaining that state yet. The process is only a scientific curiosity at present. 2. Published by Baillière, Tindall, & Cox, Strand, London, W.C. 3. No such tendency, or fear. The duct is too small to be so affected, and the fluid used should be disinfecting in itself. 4. Condy's Fluid for preference, well diluted with water; and Vaseline used before and after. 5. No: he meant no specific, save strict cleanliness, and the advice in No. 3.

**H. T. BREWER.**—We think you should pay a visit to the Hospital for Nervous Diseases, Portland-terrace, Regent's-park, London, N.W., if possible. You require a thorough examination by a physician.

**NEMO.**—See advice to "Flora" in No. 21 *HEALTH*, as regards the "acne" from which you suffer. Glad to advise further if necessary.

**KATE.**—1. No; no danger in diving with the ears plugged. We have never heard of any ill-effects, and we have known of the practice being followed by many. 2. From the movements of trunk limbs in swimming; but there is no danger in such a symptom. Don't bathe too soon after a meal.

**THEODORA.**—We believe there is no danger in the Menthol crystal. It will cause the eye to smart if it gets into that organ; but there is no truth in the rumour you name. We should say you would feel benefited by the tonic recommended to "C. R." above. Don't try rash vegetarian experiments. See a note on "Meat" in "Notes by the Way," in No. 24 *HEALTH*. Claret is preferable in your case.

**J. A. W.**—1. Use cold sponging and a suspensory bandage. 2. No; no fear of such a result. 3. See No. 1. See also advice to "C. R." in present number, and don't grow morbid.

**C. B.**—We do not see why you should require such a medicine; but some simple preparation of magnesia, such as sulphate of magnesia, 6 drachms; manna, 2 drachms; and distilled water, 1½ oz., might suit you for a draught.

**TALIESYN.**—The child's eyes should come all right in time. Such an occurrence is not uncommon, and properly treated, as we presume the infant is at hospital, you should not be over-anxious. In a few weeks at most the affection—unless dependent on constitutional weakness—should disappear.

**B. AFRICANDER.**—We do not think the guaiacum was the cause of your ailment, which partakes of a dyspeptic character. Use "Æsculap" or "Victoria Ofner Bitter Water;" and see that too much cocoa is not taken. Bragg's "Charcoal Biscuits" might also aid you materially, and are worth a trial. Yours is not a case for medicine, but for care in diet.

**T. T.**—You have probably had congestion of the liver, attended



by digestive disturbance. Try a little Morson's "Pepsine," as directed; and write again, if not better, with fuller description of your case.

ELLA.—See our "Hair" papers in the first three monthly parts (not the first three numbers) of HEALTH. Full information was given in these papers.

RESEDA.—No; if you have a special susceptibility to the action of quinine, we should advise you to try *Fer Bravais* or Wyeth's "Dialysed Iron" as a tonic instead.

NIL DESPERANDUM.—You got the weekly numbers of HEALTH. The "Hair" papers are in the monthly parts. Your case is one of those in which a general low state of health has acted on the hair. Read our papers on the "Hair."

BRONCHIAL.—Clothe warmly; try the inhalations advised for "W. Scott," in No. 24, HEALTH. The following will do good:—Syrup tolu, half an ounce; ammoniacal mixture, two ounces; compound tincture of camphor, three drachms; water to make up six ounces. A tablespoonful thrice daily.

YOUTHFUL.—You are simply what is called "out of sorts," and for your restoration we should recommend you to, firstly, take "Æsculap" mineral water each morning as an aperient; secondly, to try a cold sponge bath in the morning if sufficient re-action is present; and, thirdly, to take twice daily a teaspoonful in a wineglassful of water, of the tonic recommended to "Fides" in No. 24 HEALTH. You should also contrive to take a little gentle out-of-door exercise. In your case (in which there is no evidence of disease) a change of air would work wonders.

RAB.—Cold sponging to the parts each morning, suspensory bandage, no stimulants, food light but nourishing, moderate exercise, well ventilated bed-room, hard mattress, and cheerful occupation. Don't be morbid, above all. Write again if this advice—which must be carefully followed—does not suffice.

NONO.—See advice to "Youthful" above. In addition try "Morson's Pepsine" as directed thereon.

BOOKSTALL.—1. Certainly; your medical man is perfectly right. Don't be anxious. 2. No danger in our opinion of such symptoms, provided you now and then adopt former treatment. 3. About three years is a safe period to elapse.

OMEGA.—Try the effect of a dose or two of *Fer Bravais*, or of "Wyeth's Dialysed Iron," ten drops in water thrice daily. Attend carefully to skin, and try warm (soft) water bathing. If not improved write again. Attend also carefully to bowels.

CAMPBELL.—Try the tonic recommended to "Fides" in No. 24 HEALTH. Also see advice to "Youthful" above, which applies to your case, as your symptoms indicate derangement of general health. You should never shrink from consulting a medical man. The profession is always sympathetic with illness and pain. Glad to advise further if need be. Thanks for pamphlet. It is a "beautiful" production.

SHAKY.—We do not know the preparation you speak of. We have immense confidence (justified by the unanimous verdict of the medical profession) in the tonic recommended to "youthful" above. We regard it as superior to all others.

S. L.—(Send name and address for private communication.) We do not regard your case as at all a serious one. Only quacks would so advise you. We do not believe you suffer as you suggest, as the secretion is not what you regard it. You are evidently in a state of high nervous anxiety, which you should conquer by the thought that your fears are groundless. The persons you name are both qualified medical men (we never recommend physicians by name in HEALTH), but one of them advertises in a manner simulating quackery. We await your address, &c., as we think we can place you in a position in which you will receive permanent benefit.

OLIVIA.—The treatment you inquire about can only be applied by a specialist in hair and skin diseases. Consult such. It is effective in all cases where properly applied.

VERAX.—You are foolishly excitable. Why not credit the other side (or person) with as much common-sense as yourself? We speak thus plainly to you because you have no ground for your fears. Your cure must be wholly mental, like that of the Scotch weaver who prayed that he might be given "a good conceit of himself." Our advice is be cheerful and fear not.

R. ROBERTS.—Advice here is always given without charge. Try the following, which get made up at your chemist's: Dilute sulphuric acid, four drachms; syrup of orange peel, one-and-a-half ounces; cinnamon water, one ounce. A teaspoonful twice a day in a wineglassful of water. Your general health evidently requires attention. Are your lungs sound? and have you any cough? If so, you will benefit from cod-liver oil emulsion.

H. G.—1. If you will write us a letter embodying your views on the quacks (lay and reverend, and their "religious" supporters), we will have much pleasure in reading it, and in publishing it if suitable. We are well aware of the hideous quackery that abounds,

and the knowledge of the misery it causes is our excuse for so often recurring to the subject. 2. We regard the apparatus of which you speak as highly suitable for your case. You should call and see the apparatus, and you will learn then how it differs from all quack forms (see Mr. Carpenter's fifth paper). You suffer from over work, and such an application as you propose would do you good. Glad to assist further if need be.

M. S. W.—With the case you mention we heartily and deeply sympathise. Our advice is for you to see a specialist in brain diseases. There are several in Edinburgh or Glasgow who might be consulted with advantage. The case is one of much difficulty. Our idea is that judicious change of scene and appropriate treatment might relieve the more urgent symptoms; but more than this we cannot affirm. See a specialist at once; this we regard as your bounden duty.

A. GREY.—Creamy, not solidified. The highest authorities condemn hair-singeing. What advantage it possesses over cutting has never been explained by hairdressers, and singeing the ends can have no effect on roots.

C. T.—Leave off the "plunge" for a time. The "lumps" come possibly in consequence of excessive skin-action, induced by the "plunge." See that no chill is suffered.

J. ELKINGTON.—The author of the pamphlet you send does not pretend to be a medical man, he is only a bath proprietor. We should advise you simply to be guided by your doctor in the choice and practice of these "Electric Baths."

ALPHA.—1. The sewer gas in the trap has little or no chance of coming back; the open trap is a ventilating one for the closet and house-drains, rather than for the sewer gas, &c. There is entire disconnection between house-drains and sewer. 2. Mr. Pulvermacher's are good; we know something of the ones you name, but cannot recommend them. 3. Due possibly to indigestion, for which take Morson's "Pepsine." But if you work amongst lead much, attend to cleanliness and have frequent baths. Watch carefully for any soreness of mouth or blue line on the gums. 4. The malt extract named is good.

N. BROWN.—See a good dentist. There is no remedy save extraction for a case like yours, but by the use of gas the process is quite painless. Teeth such as you possess are the enemies of health, and your hair troubles are part and parcel of your general weakness. Your tea to dinner and at other times must be given up; try Tulloch's cocoa with milk instead. Your dietary is too poor to tamper with tea to such an extent. Clean the teeth with camphorated chalk. For the hair try a lotion of tincture of cantharides, two drachms; elder-flower water, eleven ounces; and essence of rosemary, six drachms. To be labelled "for external use," and rubbed into the roots night and morning with a small piece of soft sponge.

J. T. R.—Yours is a case for careful examination at the hands of a consulting physician. It is more than possible that your occupation and confinement are against you, and your trouble may arise from a low state of health. But on all grounds, and as your case is a peculiar one in some respects, we advise you to see a physician.

T. H. B.—Try Cowan's gymnasium at the music hall of your city. You can only develop your chest by a wisely-ordered set of physical exercises, such as Mr. Cowan will advise you in.

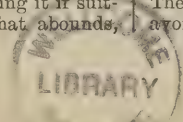
F. R. S.—We expect the result of the analysis of the fluid you sent in a few days, and will give it here, under your initials.

NO OCULIST.—1. Bathing once a day, before breakfast, is quite sufficient for health. Night bathing is unsafe from risk of chill. 2. If you don't value your eyesight more than your tobacco we can only pity you, and warn you against evil that is certain to follow the practice in your case. If, as you say, your eyes cause you "much thought," let your tobacco cause you "more thought," and give it up. No lotion can benefit you if tobacco is the cause of your weakness.

COROLLA.—No; the occurrence named is perfectly common in healthy persons, and it is not a sign of weakness or disease. You want more open air exercise; and as regards the sight, try the effect of a pair of suitable spectacles or glasses. Write to Mr. Browning, 63, Strand, London, W.C., for his self-measuring apparatus. Your eyesight will probably improve under the careful use of suitable glasses.

CALYX.—1. Yes; gaslight and its accompanying heat injure plants in ordinary rooms. 2. See our recent article on "Plants in Bedrooms." 3. Yes; we thoroughly approve of the system. See letter on the subject in this week's HEALTH.

CHARLES.—Glad to be of any assistance to you. We have seen great good result in such cases as yours from taking a teaspoonful of Fellow's "Syrup of the Hypophosphites" thrice daily in a wineglassful of water. Try this, and if not improved write us again. The affection is probably a functional one due to over-work, which avoid.





A. H. B.—[Will kindly note that the address of the Editor of HEALTH is in London, at 76, Great Queen-street, where all communications for him must be addressed; letters sent elsewhere are not attended to.] Our advice is, firstly, clothe the patient warmly; and, secondly, give him small doses occasionally of cod-liver oil emulsion throughout the winter; thirdly, have nothing to do with the "magnetic" appliances you name, as you will simply be throwing away your money on them. Read Mr. Carpenter's articles in HEALTH regarding the "magnetic" belts. The London belts you mention are genuine; but, so far as we can see, the case is not so much one for electrical treatment as for warmth, good food, and ordinary care of cold. Try a little Morson's "Pepsine" for the indigestion.

A LIFE-LONG ABSTAINER.—We think you would benefit from occasional small doses of "Æsculap Water" taken in the mornings. See also advice to "Flora" in No. 21 HEALTH with reference to the removal of "acne." If not improved we shall be glad to advise further.

J. T. B.—No cure except poulticing, and then opening if necessary. Internal medicines, in the shape of mild aperients, are likely to be useful, but you do not send sufficient particulars to enable us to advise more fully.

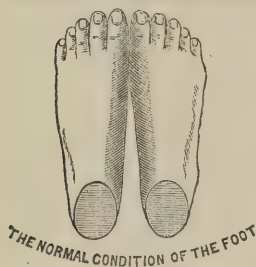
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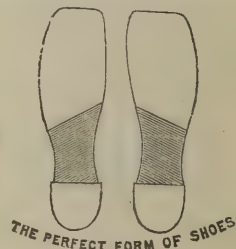
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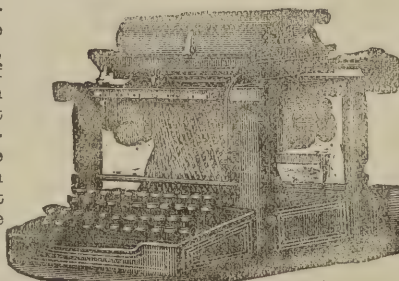


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